ATHLETIC

Vol. XV, No. 9 May, 1935

Modern Distance Runners of American Colleges
E. C. Hayes

Athletic Injuries in Baseball
G. G. Deever, M.D.

State Championship Basketball
Coaches of the Championship Teams

JOURNAL

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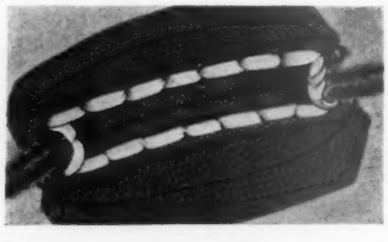

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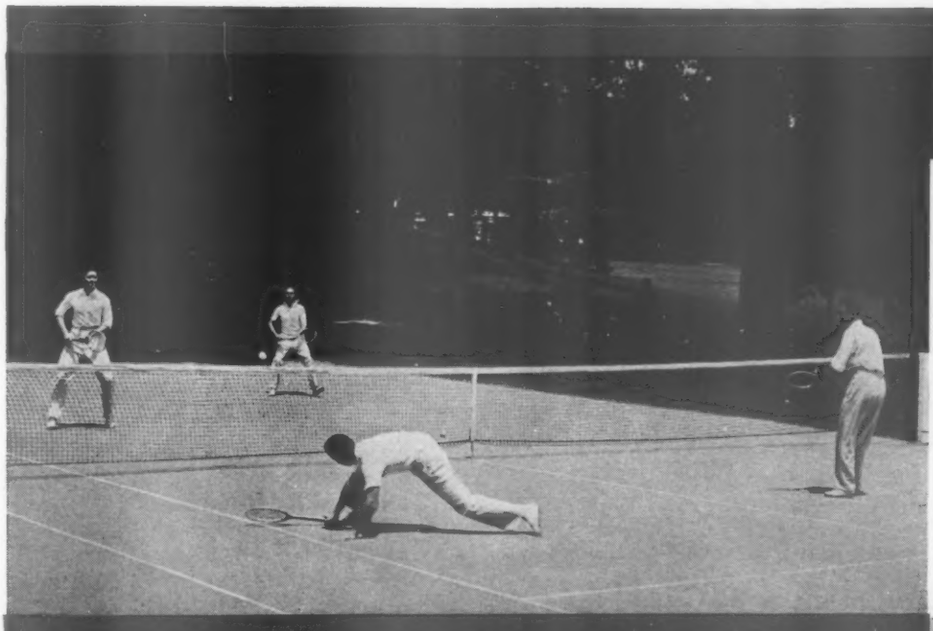

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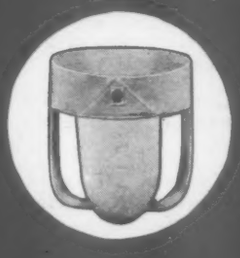

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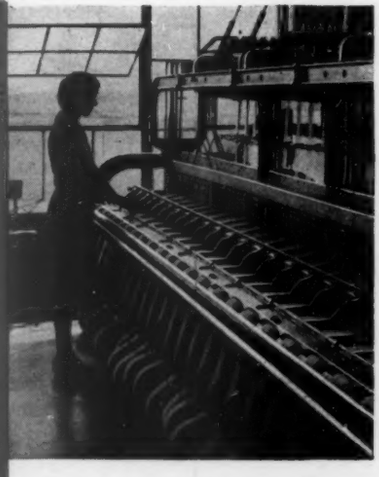

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VOLUME XV

The ATHLETIC JOURNAL

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Important Dates in the Athletic World

May 17	Southeastern Conference Track and Field Meet, Birmingham Southern University, Birmingham, Alabama
May 17-18	Big Six Conference Track and Field Meet, University of Nebraska, Lincoln, Nebraska
May 20-21	Western Conference Golf Meet, Northwestern University, Evanston, Illinois
May 23-25	Western Conference Tennis Meet, Northwestern University, Evanston, Illinois
May 24-25	Western Conference Track and Field Meet, University of Michigan, Ann Arbor, Michigan
May 24-25	Little Nineteen Conference Track and Field Meet, Illinois State Teachers College, Macomb, Illinois
May 31-June 1	I.C.A.A.A.A. Track and Field Meet, Harvard University, Cambridge, Massachusetts
June 7 (Night)	Central Intercollegiate Conference Track and Field Meet, Marquette University, Milwaukee, Wisconsin
June 21-22	N.C.A.A. Track and Field Meet, University of California, Berkeley, California
June 24-29	Intercollegiate Tennis Championships of the United States, Northwestern University, Evanston, Illinois

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ANNOUNCING

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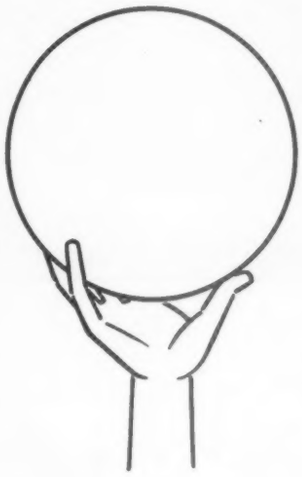

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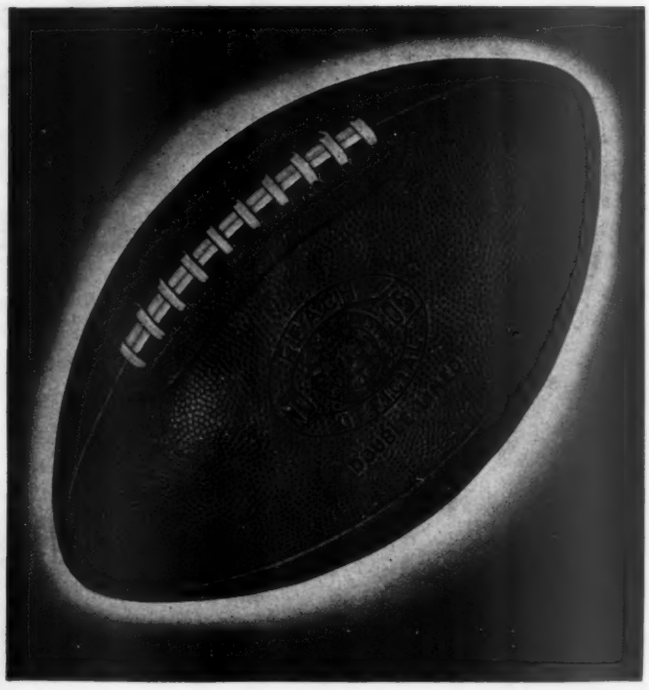

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NEW 1935 FOOTBALL EQUIPMENT

The illustration at the left shows Glenn Cunningham, University of Kansas athlete, who set a new world record for the mile in 1934—4:06.7. In his finish form is evident the ruggedness of his strong body. Note the deep chest, fine arms, well set head and neck, slim waist and powerful legs. Here is every indication of vim, vigor and vitality, backed by a fighting mind.

At the right is William Bonthron, Princeton University, who has run the mile in 4:08.9. Note the almost perfect body angle from the right foot through the waistline to the back of the head. Bonthron's left leg is coming forward in co-ordination with his right arm. His shoulder, chest and neck muscles are relaxed, conserving strength for the final stage of the race.

Modern Distance Runners of American Colleges

By E. C. Hayes
Track Coach, Indiana University

MOTION pictures of the Princeton University Invitation Meet, held at Palmer Stadium, June 16, 1934, reveal striking similarity in the form used by the three greatest college milers ever assembled for an outdoor meet. The mechanics of stride are about as nearly perfect as the physical proportions of the runners permit. (See Illustrations 30, 31, 32 and 33.)

Glenn Cunningham of the University of Kansas, in front, setting a fast pace with strong middle distance stride, shows good body angle, excellent timing of arm and leg action, evidence of great power from the foot landing, a high knee lift, a slight shoulder swing and correct balance of the head. The power from the legs is driving the weight of the body with remarkable efficiency, in part the result of the almost perfect balance derived from the arm movement and the absence of undue tension in maintaining the correct body angle.

William Bonthron of Princeton University, the second runner, has a slightly different arm movement, not visible in the pictures, necessitated by his mechanical build. He gets the same results in relaxed economy of stride, and, when circumstances are right for a maximum effort, world records will be made by the man who defeats him.

Gene Venzke, the third runner in this historic race, in which Cunningham set a new world record of 4:06.7, has a more decided distance form than his two competitors. This is the result of his background of racing and his training for the mile. Cunningham and Bontron have been wonderful middle distance racers in their college competition. I have seen Cunningham run under 50 seconds in the 440 and I have no doubt that Bonthron could run a great anchor leg on a mile relay team. In this connection I may say that boys often respond to the spirit of teamplay in running a relay that produces their maximum effort and steps them up to a much higher level of performance than that of which they seem capable in individual races.

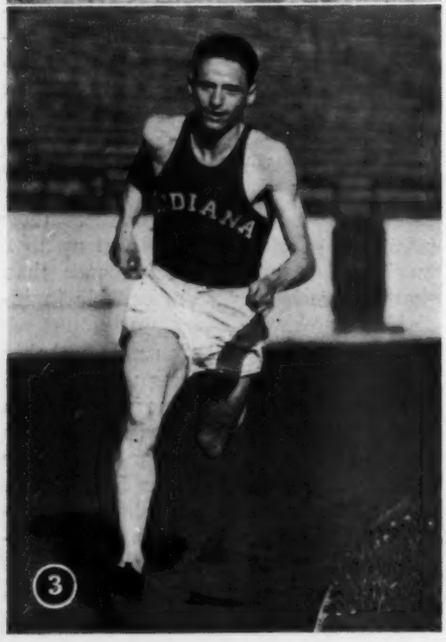
The Princeton Invitation mile probably found Cunningham running under almost ideal conditions. His preparation from a mental or psychological viewpoint was probably favorable to victory, while the same condition prevailed for Bonthron in the National Collegiate Athletic Association Meet a week later when he won decisively over his two competitors. However, the wonderful battle in the National Amateur Athletic Union Meet the follow-

FOR a number of years, E. C. Hayes has been developing track athletes, especially distance runners, at Indiana University. He is one of those rare coaches who have the faculty of discovering men who have never competed in track previous to their entrance in college and making of them champions or near champions. Athletes coached by Hayes hold Western Conference records in the 220-yard dash, the quarter-mile, half-mile, mile and two-mile runs, as well as the mile relay. They also hold the National Collegiate Athletic Association records for the 880-yard and the two-mile runs. For five years, his cross-country teams have been undefeated. One of his runners holds the National Amateur Athletic Union cross-country championship in the senior division, while another is title holder in the junior class.

Illustration 1 shows Glen Hardin of Louisiana State University, who leads the quarter-milers on the 1934 Collegiate Honor Roll. His best time for the quarter-mile was 46.8 seconds, made when he won the event at the Southeastern Conference Meet. He won the event at the National Collegiate Athletic Association Meet in 47.0 seconds. Hardin also won the low hurdles event at the National Collegiate Meet and leads the low hurdlers on the 1934 Honor Roll. An orthodox start from blocks is shown in Illustration 1. The picture gives evidence of great determination, powerful driving muscles and a strong body.

In Illustration 2, Hardin is using short driving action of legs and forceful swing of the arms, straight back and forth from the shoulders. His left toe is giving his foot almost perfect alignment for power and balance. His right leg shows a strong kick-up behind. His head and arms promise good body angle as he approaches full stride action.

Ivan Fuqua of Indiana University is shown in full stride in Illustration 3. Note that both feet are off the ground. He has great power in his legs. As he rounds the turn, his right leg is swinging into the curve, his left shoulder is slightly dropped, his left arm swing has been shortened and his right arm swing has been lengthened across his body. His upper body muscles are relaxed. The set of his head is good. Fuqua is credited with 47.51 seconds in placing second in the quarter-mile at the 1934 National Collegiate Meet. He ranks second on the Collegiate Honor Roll for 1934. Among his important victories were those at the Western Conference Meet, the Princeton Invitation Meet, the Central Intercollegiate Meet and the National A. A. U. Meet. Fuqua is on the 1934 Collegiate Honor Roll for the 220-yard dash as well as the 440-yard event.



John McCarthy of the University of Southern California is shown in Illustrations 4 and 5. McCarthy placed third in the 1934 National Collegiate 440-yard event. His time was 47.85 seconds. Illustration 4 shows good body angle, splendid right leg drive and a high knee lift of the left leg. In this picture he is tensed, but later in his stride he will relax.

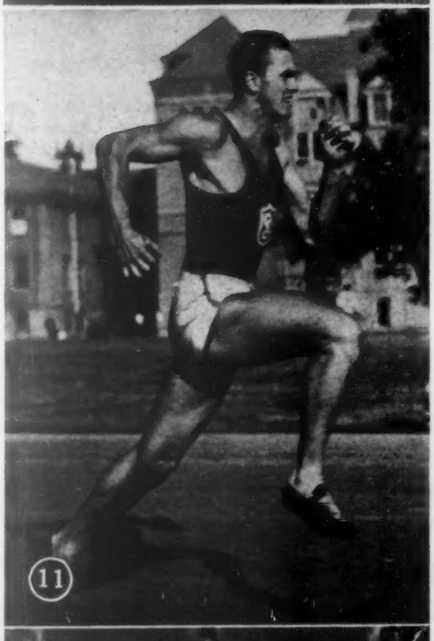
Illustration 5 shows McCarthy in stride. Note that his arms are being used in aiding a hip and shoulder swing. His hands come slightly across his body and the elbows out from the body. His forearm makes an acute angle with his upper arm. The swing from the shoulder shows good rhythm with the leg action. In this picture McCarthy has relaxed.

Illustration 6 shows Edgar Ablowich, who placed fifth in the 1934 National Collegiate 440, behind Louis Brothers of Rice Institute. His time was 48.11 seconds. There is great power in the drive from his right foot. He is well up on his toe. His left knee is high but this indicates sprint action preceding the full 440 stride. His forearm makes a right angle with his upper arm. His head is well set, and his weight is ahead of the power. There is a slight break at the waistline, but the angle is good.

Al Fitch, University of Southern California, who placed sixth in the National Collegiate 440, is shown in Illustration 7. His time was 48.12 seconds. Fitch is a long-legged type of runner. He is, in this illustration, landing on the ball of his right foot. He is getting full stride action by coming up on the right toe as his left leg swings forward. His arms are relaxed. His head is in position for balance without tension of the neck. The arm action shown in this picture is very good.

Allan Blackman, Stanford University quarter-miler, is shown in Illustration 8. Blackman ran the quarter-mile in 47.8 seconds in two different dual meets during 1934. His right leg drive, left knee lift, right arm swing and shoulder action are all in rhythm. His body angle is very good. His left foot toes out—an action which might be criticized. Blackman is of the sprinting type and has great possibilities, if he has endurance.

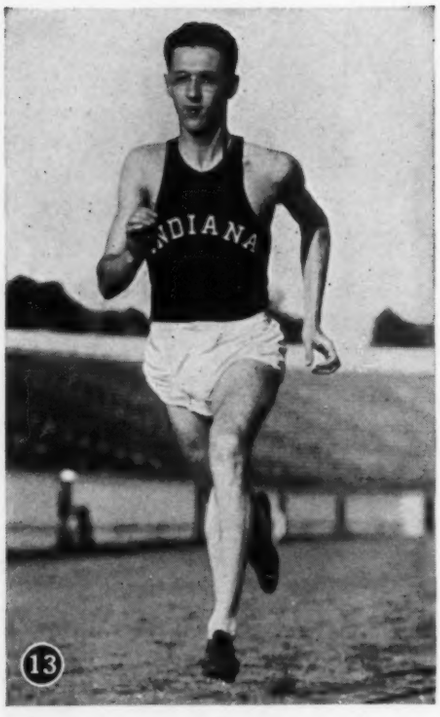
Another quarter-miler of the sprinting type is James Luvalle of the University of California at Los Angeles, shown in Illustration 9. Luvalle placed seventh in the 1934 National Collegiate 440. His best time was 47.4 seconds, made in a dual meet. Luvalle's leg and arm movement harmonize, but in this picture his form might be criticized in that his right arm is too far back and his left hand is slightly across his chest. Luvalle has a splendid stride and great speed, but he may find it difficult to maintain this form for 440 yards.



Estel Johnson, University of Southern California half-miler, is shown in Illustrations 10, 11 and 12. Johnson placed fifth in the National Collegiate 880-yard event. His best time of 1934 was 1:53.5. In Illustration 10 he is showing an effective landing well back on the ball of the left foot. In this illustration he may be too tense in his right arm and his neck.

In Illustration 11, Johnson shows straight-away push, high knee lift and strong arm action from the shoulder. His forearm is at a right angle to his upper arm. His right hand may be too far to the rear. Johnson is a powerful runner.

In Illustration 12, Johnson is shown using a full stretch, long stride on the finish. His strong foreleg reach and rather high kick-up indicate great strength. He has reserve power to spare. In this picture his head is well set.



Leader among the half-milers of 1934 was Charles Hornbostel of Indiana University, shown in Illustration 13. In 1933, Hornbostel ran the 880 in 1:50.9. In 1934 he won the National Collegiate half-mile in 1:51.9. In the Princeton Invitation Meet he placed behind Ben Eastman in 1:50.7. Note in this illustration the absence of any tension in his effort to run relaxed at the 880-yard pace. His forearm is at a right angle to his upper arm. There is a free swing from the shoulder. Hornbostel has a medium long foreleg stretch in landing. In this picture both feet are off the ground. He is about to land well back on the ball of the foot; his heel will touch slightly.

ing week at Milwaukee found both Bonthron and Cunningham equally prepared mentally and physically for a supreme test. There was no question of form or courage involved in the outcome. Cunningham's strategy in going out for a killing pace may have been perfect at Princeton, but it failed by a slender margin at Milwaukee. The new world record of 3:48.8 in the 1500-meter event was a great tribute to both Bonthron and Cunningham.

Without first-hand knowledge of the intimate details leading up to the senior year of these two great runners, it would be impossible to evaluate the relative merits of their so-called systems of training. Every coach will tell you that training becomes strictly an individual problem, and in the end the battle is more mental than physical.

Venzke has two years of college competition yet and may improve, as did both Bonthron and Cunningham.

Half-Milers

IN Ben Eastman of Stanford University, the world has never seen superior physical equipment for middle distance events. This is borne out by his list of world records made during the European trip following the world record breaking performance at the Princeton Invitation Meet. With a background of exceptionally fine performance as a sprinter and middle distance competitor in college meets, he was placed on the Honor Roll in both the 440 and 880 during his three years of intercollegiate competition. He anchored the Stanford one-mile relay team which established a world record of 3:12.6 in 1931, and ran second to Carr in the 1932 Olympic 400-meter event. With an opportunity to give special attention to his conditioning and the added maturity of another year, Eastman arrived for the Princeton Meet at the top of his form. His strategy in running his 800-yard race, with a very fast first quarter, has been questioned, but it produced a world record.

At the time of the Princeton Invitation Meet, Charley Hornbostel of Indiana University had finished three years of collegiate competition without defeat in the half-mile and had equaled Eastman's world record for this event after a terrific battle with Cunningham in June, 1933. His lack of speed and his background of coaching to run at even pace with a strong finish kick had not prepared him to go out strong on the first furlong. In the motion pictures of the 880-yard race at the Princeton Meet, the powerful stride used by Eastman and Hornbostel may be noted. The former's stride is approximately twelve inches longer than

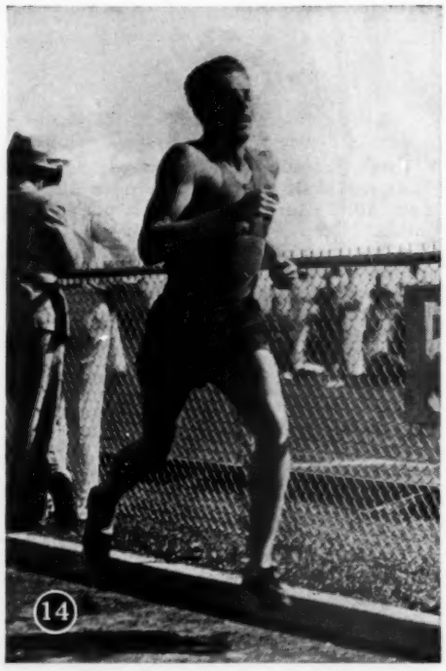


Illustration 14 shows Ted O'Neal of Louisiana State University. O'Neal placed sixth in the National Collegiate half-mile in 1934 with the time of 1:55.24. In this picture O'Neal is in running stride. Both feet are in the air. O'Neal's legs are not long, but he achieves smooth arm action in rhythm with his legs. There is no evidence of undue tension in his upper body.

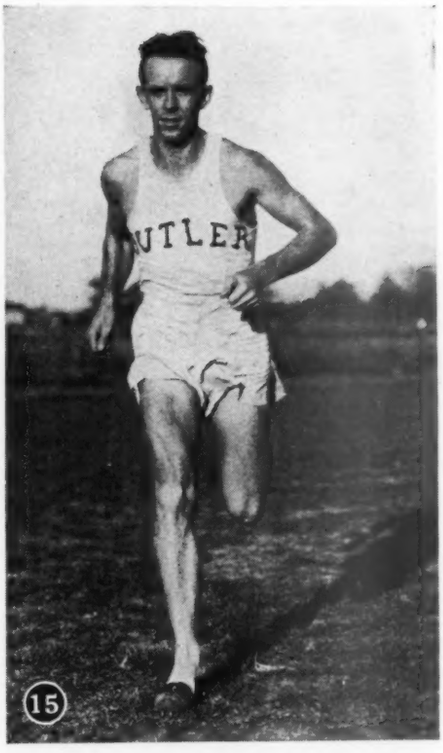


Illustration 15 shows Ray Sears of Butler University, who finished third in the National Collegiate two-mile event in 9:30.04. He won the Central Intercollegiate two-mile race in 9:24.9 and has run the two-mile indoors in 9:07.4. Sears is an example of very fine development of a distance runner. His legs are full of spring and he has relaxed arm movement and excellent rhythm. His power carries his weight without apparent effort. He has great speed over any distance and can hold a pace and finish strong. He is on the Collegiate Honor Roll in the mile as well as the two-mile event.

Hornbostel's. This may be accounted for by Ben's greater length of leg and by the fact that Charley is flat-footed, while Ben's feet are full of spring. (See Illustration 34.)

The body angle, driving power, knee lift, foreleg stretch, arm movement and general rhythm are much the same in effect. However, the lack of spring in Hornbostel's feet really changes his mechanics to some extent. He lacks the extra inches contributed to stride by good feet, and this work must be done by other muscles. I consider him a remarkable case of development in overcoming a tremendous handicap and reaching supreme heights of performance.

Eastman and Hornbostel are well-balanced in their training schedule and have good judgment in preparing themselves for competition. Both are serious in having an objective in life beyond their athletic battles and have taken up graduate work in Commerce.

It has been rumored that Eastman may attempt to break the mile record, and, should he set himself the task, his great margin of reserve in speed might enable him to run each quarter in approximately

one minute, producing the four minute mile.

Bush, a sophomore at the University of Southern California, former interscholastic champion, Johnson, also of Southern California, Robinson of Fresno State and Rosenkranz of Michigan Normal are coming along with great promise in the 880. They vary as to type according to background, but, keeping in mind that each individual has his own problems to solve, I predict a continuance by boys from coast to coast of the fine record of performance set by Eastman and Hornbostel.

Quarter-Milers

THE quarter-mile contestants for honors at Princeton's great meet, Fuqua of Indiana, Kane of Cornell, Ring of Holy Cross, Hoffman of New York and Eliott of Villanova, were given ideal conditions to set a record. Hardin of Louisiana State University was unable to compete, and the competition was not keen enough to force the maximum ability. Fuqua won probably because he had been through a strenuous season of relay racing in which he ran the half-mile on the two-mile team prior to his anchor leg on the mile team. At the Penn Relays, he was a member of three winning relay teams. This overdistance competition gave him a fine background for consistent performance in the 440-yard event, but he was not on edge.

In the motion pictures of these men rounding the turn, Fuqua is leading with a strong stride, leaning slightly to the

The illustrations on this page are of Elroy Robinson, Fresno State College half-miler. They are from six consecutive frames of a motion picture film taken at slow speed and show practically two complete strides of this strong runner. Note in Illustration 16 the early part of the long stride from the right foot, which has just left the ground.

In Illustration 17 may be seen the foreleg stretch. Both feet are off the ground.

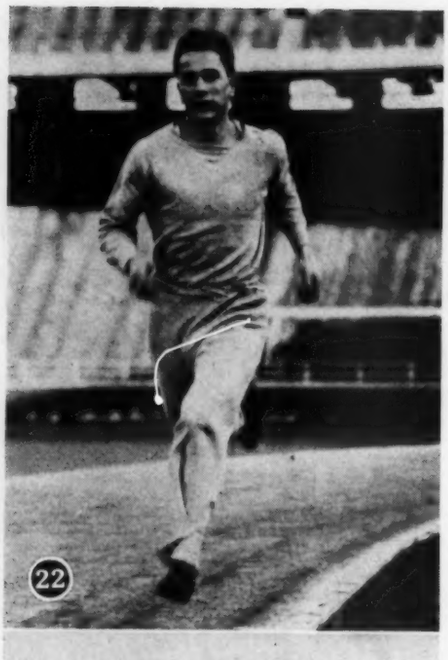
Note the strong kick-up of the right foot in Illustration 18 as the left foot lands.

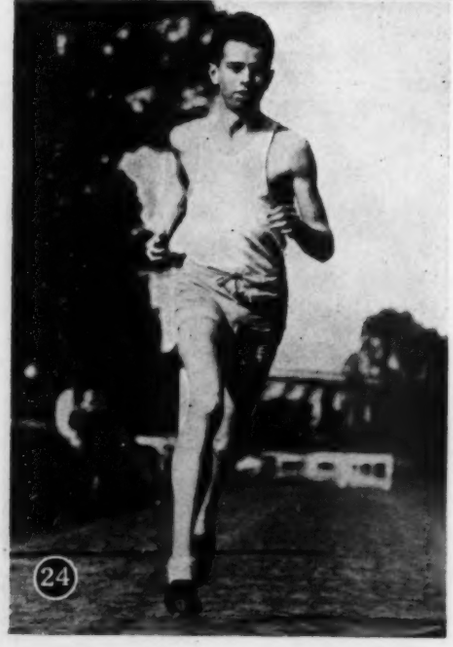
Illustration 19 shows Robinson beginning the lift of the right knee. Note the straight-away line of the body angle as he pushes off.

Illustration 20 shows the early part of the stride from the left foot. Note the body angle and the position of the arms.

In Illustration 21 both feet are off the ground in stride. The arm action in this and the other pictures is economical and efficient without strain.

Robinson is now in his second year of varsity competition, has still another year ahead of him and, in the opinion of his coach, J. Flint Hanner, may achieve 1:51 in the half mile before he graduates.



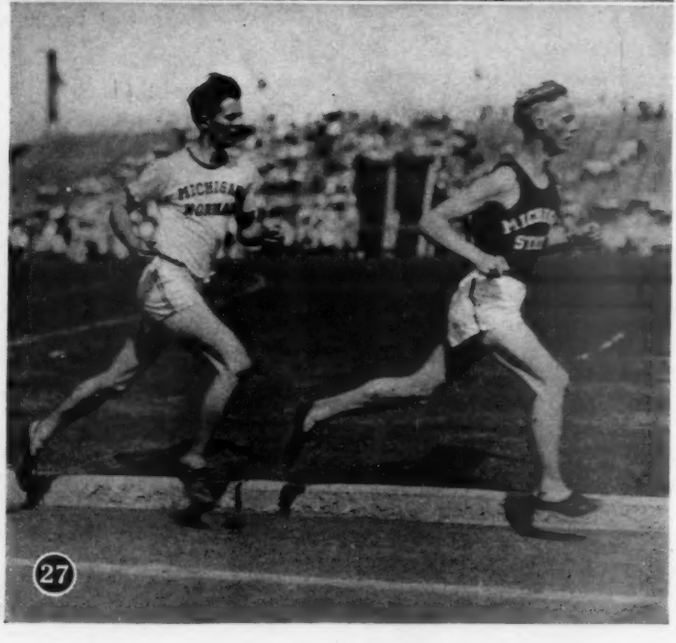


Gene Venzke, University of Pennsylvania miler, is shown in Illustration 22. Venzke placed third in the National Collegiate mile with the time of 4:15.18. In previous years he has made better time. This picture shows him in full stride with both feet in the air. He has excellent form in the rhythm of arms and legs. He shows great power and well coordinated effort.

Charles Nimmo of Stanford University, who placed sixth in the National Collegiate mile behind Harry Williamson of the University of North Carolina and Otto Pongrace of Michigan State College, is shown in Illustration 23 using the sprint form in starting.

Illustration 24 shows Nimmo relaxed and striding with splendid arm and leg action. Nimmo's best 1934 time was 4:19.61.

Illustrations 25, 26 and 27 show William Zepp of Michigan Normal College following Thomas Ottey of Michigan State College in the Michigan State Intercollegiate Conference two-mile race of 1934. Illustration 25 was taken after the runners had passed the mile mark, Illustration 26 as they passed the mile and a half mark and Illustration 27 on the back stretch just as Zepp was about to pass Ottey. This last is an unusual picture as both men are clearly off the ground. Zepp is showing excellent form and is just starting his burst of speed which carried him three-quarters of a lap to the finish. His time for this two-mile race was 9:16.3. Note the similar arm and leg rhythm of Zepp and Ottey. Zepp's right foot landing is a little more on the ball and the heel, as shown in Illustration 25, while Ottey has a slightly higher kick-up of the rear foot, as shown in Illustration 26.



curve. (See Illustration 35.) He is followed by Ring. Kane is third, on the pole, running with almost the same form as the leader. The leg and arm action of the two men who finished first and second is almost identical. Kane came up with a rush to pass Ring at the finish. Note the higher arm movement and more decided body angle of Kane and Fuqua. At this stage of the race, the men are running on stride and conserving energy for the final burst on the back stretch. The ability to make the pace on the first half of the 440 within the runner's limits, to the extent that he will be able to produce a strong finish, is most difficult to acquire. It usually comes from a background of overdistance pace work at distances of 500 to 880 yards, with emphasis on finish form.

Overdistance Work

IN all events from the 220-yard dash to the two-mile run, I have advocated overdistance work to build up strength and endurance. As a result, we usually find the boys coming through their competition without distress and able to recuperate quickly.

I have found many candidates for sprints better suited to distance running, and have started men out as two-milers and found them quarter-milers and fair sprinters after their sophomore year. The best instances of this were Don Scott and Cochran. Don Scott, who came to college as a sprinter and 440 candidate, in one meet in his junior year, against the advice of the man I had placed in charge of the team during my absence, ran the mile, half-mile, quarter-mile and relay, winning each event. Scott was National A. A. U. champion in 1916 and winner of the Western Conference 880 with a record that stood until broken by Hornbostel in 1934. Cochran of Mississippi A. & M. was picked from a gym class and worked on the two-mile during his freshman year. He developed rapidly and became a fair half-miler in his sophomore year. As a junior he won the National Collegiate 440 and repeated in his senior year. During his senior year, Cochran ran and won the 100, 220 and 440, and anchored the mile relay in most of his meets. He barely arrived at his maximum and should have improved each year after his graduation at twenty up to the age of twenty-four.

John Sanders of Louisiana State University is using middle distance form in Illustration 28. He is driving from his right foot with almost perfect body angle. His high knee lift indicates the use of too much power for a long distance race. This picture was probably made early in a race when Sanders was fresh. Sanders finished fifth in the 1934 National Collegiate two-mile race, behind Robert Wagner of the University of Oregon, in 9:35.58.

THIS is one of several articles published this spring on track and field events by prominent coaches. In the April issue, B. H. Moore of Louisiana State University wrote on "Hurdlers and Hurdling." In the March issue, J. Flint Hanner of Fresno State College wrote on "Coaching the High Jump" and H. W. Hargiss of the University of Kansas discussed "Individual Differences in the Training of Track Athletes." The names of all of these men are closely associated with track or field athletes who hold world records in their events.

The articles by Hanner and Moore are illustrated by action pictures of hurdlers and jumpers who won places on the 1934 Collegiate Honor Roll. In the gathering of pictures for all these articles, this publication has received the splendid co-operation of the coaches in colleges represented by Honor Roll athletes. Another well illustrated article is in prospect for the June issue. Copies of the March and April issues are available to new subscribers who may have missed the articles by Hargiss, Hanner and Moore.

So long as a boy has a zest for running, he is usually able to establish a safe background through cross-country work that will permit him to acquire the ability to undergo the more punishing fast pace work necessary to make a creditable record in the 880, mile and two-mile. The coach has a great responsibility in the guidance of boys physically able to undergo this upbuilding program, and I have found that boys successful in this perseverance become most substantial men in a threefold way in the years following graduation.

Background of Distance Men

I HAVE found that all great competitors have much in common that gets results. Glen Hardin, 440-yard champion, had the finest background of all our champions for his event. In high school, W. O. Spencer, a former star at Mississippi A. & M. and member of the 1924 Olympic Team in the 1500-meter run, was his coach and high school principal. He worked Hardin in the 880, 440 and low hurdles, using excellent judgment in not overworking him. This explains Hardin's stride, strength and speed; also his world record in the 400-meter hurdles.

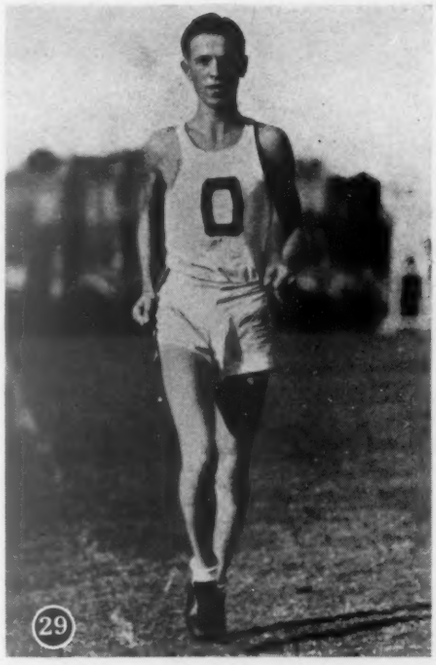
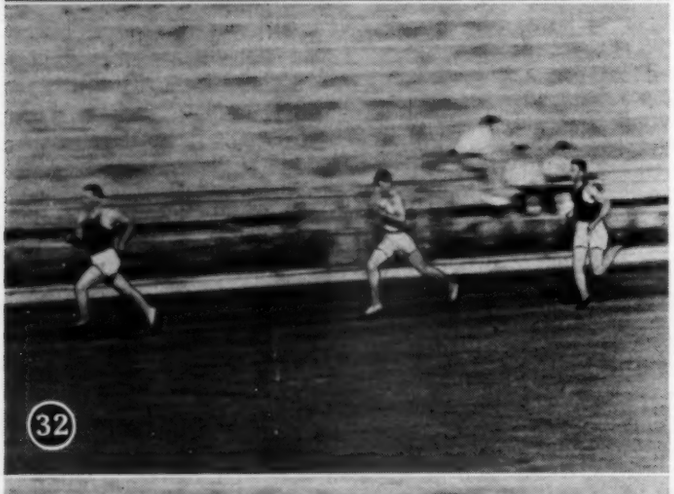


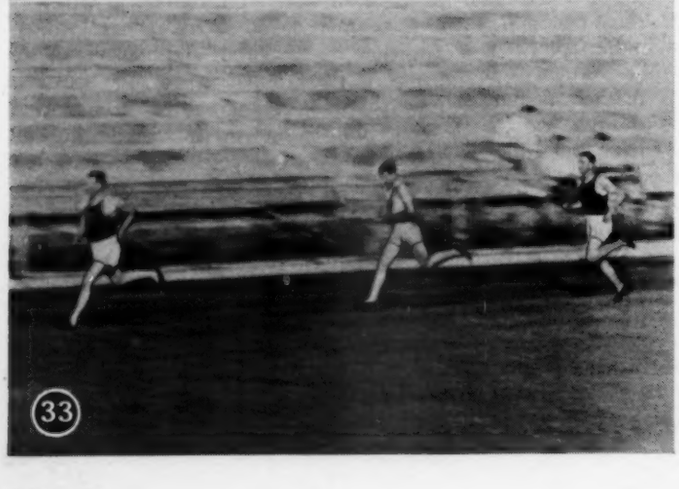
Illustration 29 shows Lloyd Lochner, University of Oklahoma two-miler. He placed sixth in the 1934 National Collegiate two-mile race in 9:39.1. This picture shows Lochner running relaxed at a slow pace and in very good form. He has a well-developed body for a distance runner.

In the background of Blackman, McCarthy, Fitch, Luvalle, Ablowich, Ring and Kane will be found much in common with that of Fuqua and Hardin.

William Zepp of Michigan Normal, Tom Ottey of Michigan State, Ray Sears of Butler, Frank Crowley of Manhattan and Joe McCluskey of Fordham are all mature men having a basic training in overdistance work and reaching their peak after maturity. Sears has run the 880 in less than 1:55, the mile in 4:14 and the two-mile in 9:07.4 (indoors). In outdoor meets, he has won over, and lost to, practically all of the men listed above. The physical condition and mental attitude of these men toward the particular race usually determines the winner. Each knows the others' ability to make pace and what to expect on the finish. It is impossible to have all of them at the top mentally and physically at the same time in collegiate competition. They use much the same foot form; they have not gone to the extreme heel, ball, toe rocker movement used by some of the outstanding European runners.

Zepp, Ottey and Sears, who have already been mentioned, and Don Lash of Indiana University are rated as the most promising two-milers of the 1935 outdoor season.





The illustrations on this page are from motion picture films of the Princeton University Invitation Meet held at Palmer Stadium, June 16, 1934.

Illustrations 30, 31, 32 and 33 are of the mile run in which Glenn Cunningham of the University of Kansas set a new world record of 4:06.7. Note the similarity of form of the three runners, who finished in the order in which they are shown. Cunningham is in front, setting a fast pace. He is showing good body angle, excellent timing of arm and leg action, a high knee lift, a slight shoulder swing and correct balance of the head. There is evidence of great power from the foot landing. The power from the legs is driving the weight of the body with remarkable efficiency. This is the result of the almost perfect balance derived from the arm movement, as well as the absence of undue tension in maintaining the correct body angle.

In second place in Illustrations 30 through 33 is William Bonthron of Princeton University. He has a slightly different arm movement, not visible in the pictures, which is necessitated by his mechanical build. He gets the same results as Cunningham in relaxed economy of stride. The stride of both Bonthron and Cunningham is that of strong middle distance runners.

Gene Venzke, the third runner in Illustrations 30 through 33, has a more decided distance form than his competitors. This is the result of his racing background and his training for the mile.

Illustration 34 is of the 880-yard run, Ben Eastman of Stanford University closely followed by Charles Hornbostel of Indiana University. Here again is a striking resemblance of form in legs, body, head and arms. The carriage of the hands is not quite the same, but this is not evident in the picture. The difference in the length of stride is largely the result of Eastman's sprint background and greater height, and Hornbostel's handicap of flat feet and lack of speed in sprinting short distances. In this race, Eastman set a new world record for the distance—1:49.8.

Illustration 35 shows runners at the Princeton Invitation Meet rounding the turn in the 440-yard event. Fuqua of Indiana University is leading with a strong stride. He is followed by Ring of Holy Cross. Kane of Cornell is third, on the pole, running with almost the same form as Fuqua. At this stage of the race, the men are running on stride and conserving energy for the final burst on the back stretch. Note the higher arm movement and more decided body angle of Fuqua and Kane, who finished first and second respectively, as well as their similarity of leg action.

Effect of the Intensity of the Stimulus on Starting Time

By Gilbert Carson
Charleston, Illinois, High School

THIS is one of a number of studies on track that have been made under the supervision of the Department of Physical Education at the State University of Iowa. Directing Gilbert Carson in his study were Dr. W. W. Tuttle of the College of Medicine and George T. Bresnahan, Coach of Track. Mr. Carson is Director of Physical Education in the Charleston High School.

REACTION time experiments, in which a human subject responds to sound by pressing a key, have shown that there is an optimum intensity range in which the reaction time is shortest. This fact suggested the idea that perhaps the starting time of a sprinter might be influenced by the intensity of the pistol shot used by a starter. The importance of the question is emphasized by the practice of using starting pistols which vary in caliber from very large to very small.

There are various reasons why different sized pistols are used. In some countries firearms are difficult to obtain, while in other places the cost of ammunition is almost prohibitive. In our own experience, the availability of pistols is the chief determining factor. Where consideration is given to the caliber of the pistol, the chief factor involved is the provision for sufficient flash, so that the timing officials can see it.

If the strength of the stimulus (caliber of the pistol) is a determining factor in the starting time of a sprinter, then the question of caliber of the pistol used should be given careful consideration, and perhaps regulated by rule. This investigation was undertaken in order to secure information on the question of the influence of the intensity of the pistol shot on starting time.

There are no reports in track literature which deal with the specific problem involved in this experiment. Many reports concerning reaction time, and also the start of the sprint, have been published, but since they have only a general bearing on this work they are not here reviewed.

Starting time in this experiment is defined as the interval of time elapsing between the pistol shot and the leaving of the mark by the foot front.

The Apparatus

A DETAILED description of the apparatus employed for collecting the data has been reported by Tuttle and Bresnahan.[1] The time of the pistol shot is recorded by a sound key placed in series with the back magnet of a Dunlap chronoscope through a relay. When the pistol is fired, the circuit is opened instantaneously, thus freeing a spring switch on the relay. When the spring switch is pulled over, the back chronoscope magnet is activated, thus starting the dial hand. The spring switch also activates magnets which maintain the chronoscope circuit after the sound key is closed, following the pistol shot.

The time at which the sprinter leaves the mark with the front foot is recorded by the use of a modified starting block placed in series with the front chronoscope magnet. The block is arranged so that when the sprinter comes to the "set" position, the circuit is open, and, when he leaves the mark, the circuit is closed, thus activating the front chronoscope magnet and stopping the dial hand. Time is read in milliseconds. Since the back chronoscope is in a 6-volt circuit and the front one in a 12-volt circuit, the activation of the front magnet stops the dial hand instantaneously. It should be added that since the block circuit is closed except when the sprinter is in a "set" position, it is kept open by means of a knife-switch which is closed when the command "Get set" is given.

No claim is made that starting times here reported are absolute. Absolute starting times are slightly longer than reported starting times, because of a lag in the recording mechanism. This lag is a function of circuit voltages which were kept constant. Therefore, the lag in the recording mechanism was constant.

The Intensity of the Stimulus

IN order to study the effect of the intensity of the stimulus on the starting time of sprinters, stimuli of four different intensities were employed as follows:

THE "SCOTCH PISTOL." The "Scotch pistol" consists of two pieces of wood hinged together at one end. The stimulus for the start is produced by striking the boards together. The intensity of the sound produced depends on the force with which the boards are struck together. In this experiment they were struck lightly, producing a rather weak stimulus.

THE CAP PISTOL. The cap pistol is an ordinary toy pistol, used to imitate the shot of a real pistol.

(Continued on page 44)

TABLE 1
This Table Shows the Mean Starting Time of 25 Trained Sprinters Using Stimuli of Various Strengths in the Start

Sub. No.	"Scotch Pistol" A. M.	"Scotch Pistol" P. E. A. M.	Cap Pistol A. M.	Cap Pistol P. E. A. M.	Flash Pistol A. M.	Flash Pistol P. E. A. M.	32-Caliber A. M.	32-Caliber P. E. A. M.
1	.3206	.0123	.3614	.0127	.3310	.0135	.3981	.0104
2	.2332	.0124	.2784	.0120	.2715	.0098	.3517	.0137
3	.1400	.0062	.1337	.0055	.1482	.0058	.1371	.0077
4	.2443	.0091	.2518	.0080	.2344	.0120	.2234	.0149
5	.2431	.0088	.2508	.0097	.2423	.0089	.2648	.0061
6	.2021	.0084	.2133	.0053	.2044	.0057	.2146	.0064
7	.3442	.0138	.3188	.0134	.3529	.0147	.3173	.0154
8	.2161	.0065	.2098	.0073	.2143	.0094	.2027	.0036
9	.1749	.0059	.1814	.0053	.1608	.0049	.1754	.0051
10	.4422	.0070	.4635	.0056	.4403	.0063	.4610	.0049
11	.3869	.0132	.3343	.0111	.3501	.0111	.3781	.0111
12	.2749	.0075	.3247	.0130	.2972	.0059	.4211	.0073
13	.3221	.0124	.2899	.0107	.2613	.0135	.2664	.0128
14	.4138	.0125	.4367	.0077	.3967	.0121	.4157	.0117
15	.4230	.0123	.4385	.0125	.4256	.0119	.4256	.0071
16	.3955	.0136	.3656	.0154	.3799	.0142	.3911	.0131
17	.2468	.0131	.2698	.0139	.2344	.0132	.2548	.0127
18	.4198	.0080	.4087	.0136	.4085	.0121	.4404	.0095
19	.4984	.0120	.5119	.0081	.4615	.0077	.4810	.0117
20	.4571	.0096	.4595	.0108	.3832	.0115	.3997	.0147
21	.1880	.0084	.1918	.0072	.2004	.0062	.1747	.0053
22	.2251	.0058	.2260	.0055	.2134	.0069	.2350	.0050
23	.1780	.0059	.1884	.0067	.1866	.0055	.1677	.0084
24	.1957	.0072	.2091	.0075	.1967	.0080	.2168	.0084
25	.1613	.0057	.1601	.0048	.1513	.0054	.1557	.0054
Mean	.2938		.2901		.2859		.3027	
S. D.	.1046		.1059		.0971		.1081	
P. E. mean	.0141		.0143		.0131		.0146	

A. M. = Arithmatic Mean; P. E. = Probable Error; $\frac{\text{P. E.}}{\text{A. M.}}$ = Probable Error of the Arithmatic Mean.

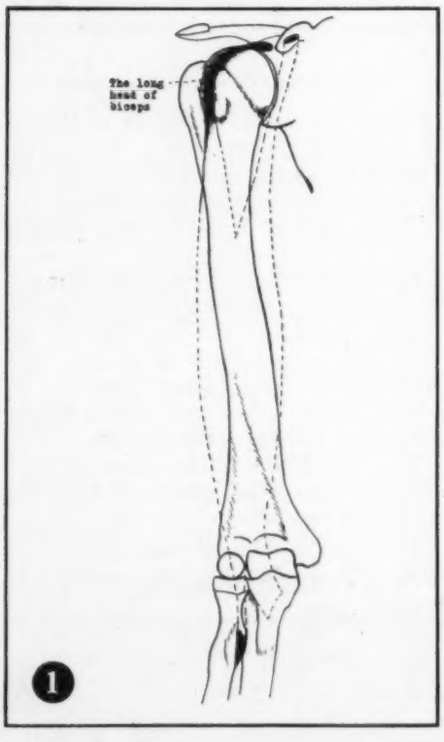
[1] Tuttle, W. W., and Bresnahan, George T., "An Apparatus for Measuring Starting Time in Foot Races." 1933. Research Quarterly, 4:110-116.

Athletic Injuries in Baseball

By G. G. Deaver, M.D., B.P.E.
Department of Health and Physical Education, New York University

INDIVIDUALS playing baseball may receive injuries ranging from a sprained toe to a fractured skull, but there are certain injuries which, because of the nature of the game, may be classified as baseball injuries. Injuries such as baseball finger, baseball elbow and glass arm are discussed by the members of the profession, yet it is difficult to obtain consistent information on the causes, the tissues injured and the best forms of treatment.

Baseball players seem to have more faith in the manipulation of quacks than any other group of athletes. The papers



are continually giving the itinerary of injured players as they travel from "bone setters" to chiropractors in their efforts to find a miracle worker who can heal an injured tissue by some occult power. One cannot blame these players, but their efforts seem foolish, for the laws of nature are fairly consistent with reference to growth and healing. We may help nature to heal an injury more rapidly with the aid of heat, massage and other therapeutic agents, just as we hasten the growth of our flowers by fertilizer and protection from the cold, but time is the great factor in the healing process. The more one deals with athletic injuries, the firmer his faith is placed in rest and the proper application of protective bandages to prevent irritation of the injured tissue.

There are four injuries which will be discussed in this paper. The evidence presented in some cases may not be conclusive, but the writer has endeavored to prove his statements by the facts available.

Injuries to the Biceps Tendon

THE consensus seems to be that the term "glass arm" refers to an injury to the long tendon head of the biceps muscle.

"Glass arm is a condition of the arm caused by a slipping of the long head of the biceps from its groove in relation to the shoulder joint." [1]

"Glass arm is an ailment of the arm commonly found in tennis or baseball players." [2]

"Glass arm is an injury to the long head of the biceps muscle or the sheath covering it." [3]

"Glass arm, or baseball shoulder, is a tenosynovitis of the long head of the biceps." [4]

History

The individual usually states that he was throwing a ball or swinging his arms (golf swing) when the injury occurred. In some cases, he may state that something snapped in the shoulder at the end of the swing. There is seldom any discomfort at the time of the injury, but there is a progressive weakness in the use of the arm.

Causes

Camp states, "A large proportion of these 'glass arms' are acquired in practice before the season commences." [5] Benson thinks that too forceful extension and rotation (both pronation and supination, especially the latter) of both forearm and the arm as a whole is the chief cause.

Anatomy and Physiology

Having located the injury in the long head of the biceps tendon, let us analyze the movements and see how the cause may produce the effects.

"During the process of evolution the long head of the biceps has swung right into the capsule of the shoulder joint. The biceps lies on the anterior surface of the arm and its tendon passes through the capsule of the joint, enters the groove in the humerus and is inserted on the upper margin of the glenoid cavity. The tendon is enclosed in a special sheath of synovial membrane of the shoulder joint. It is held in the groove by the transverse humeral ligament and by a fibrous prolongation from the tendon of the pectoralis major. The tendon steadies the hand in all the movements, thus acting as a ligament without the disadvantage of only being available in one position or of restricting the range of movement." [6] (Illustration 1.)

The short head of the biceps has its origin from the coricoid process of the scapula, while the insertion of the muscle is on the tuberosity of the radius. The action of this muscle is chiefly as a supinator of the wrist and aids in the flexion of the forearm, while the triceps muscle extends the forearm.

Pathology

From the position and action of the muscles which move the forearm, it is difficult to see how any one can injure the triceps, that is, in throwing a straight, fast ball. In throwing a curve ball, the arm is brought across the front of the body and the forearm is rotated just as the ball is thrown. (See Illustration 2.) The action places a tremendous strain on the biceps. The long tendon of the biceps is stretched because of the position of the arm across the body, and then the sudden rotation of the arm produced by the biceps increases this strain. By placing a finger on this tendon in the shoulder, one can feel it fairly rise out of its groove when this action is performed.

[1] Fourt, R. S., M.D., Team Physician, State University of Iowa (Personal communication).
[2] Benson, S., Ph.D., Athletic Trainer, University of Chicago (Personal communication).
[3] Ferguson, J. D., Athletic Trainer, Indiana University (Personal communication).
[4] Bilik, S. E., *The Trainer's Bible*, A. T. S. Supply Co., 1934.
[5] Camp, W., *Training for Sports*, Charles Scribner's Sons, 1925.
[6] Heald, C. B., *Injuries and Sport*, Oxford University Press, 1931, p. 147.

It is interesting to note that pitchers realize the punishment their arm receives in curving the ball and the necessity of being in excellent condition and warmed up before they begin throwing curves. If the arm is not ready to function, and stretching fails to occur, there is a slipping of the biceps tendon from the groove, which results from an injury to the ligaments holding the biceps tendon in its groove. It is not the muscle which produces the force in throwing the ball (triceps) which is injured but the antagonist muscle (biceps) which fails to stretch.

Space does not permit further postulations on injuries which may occur, but it seems that the radio-humeral bursa in the elbow must suffer considerable compression in the throwing of the curve ball. From the anatomical standpoint, the writer would expect curve ball pitchers to suffer as much from sore elbows (tennis elbows) as from sore shoulders.

Symptoms and Signs

There is usually no pain when the arm is not used, but there is a feeling of heaviness in the shoulder and pain when the arm is used. On inspection of the shoulder, there is found no change in the contour of the muscles or bones. In cases of long duration, there may be an atrophy of the muscles resulting from lack of use. There is no limitation of movement, but pain is elicited when the forearm is supinated. The pain is usually described as running down the middle of the deltoid muscle and the painful area may be located by making pressure over the middle of the deltoid and having the injured person supinate the arm.

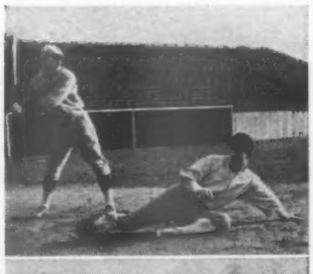


Illustration 3

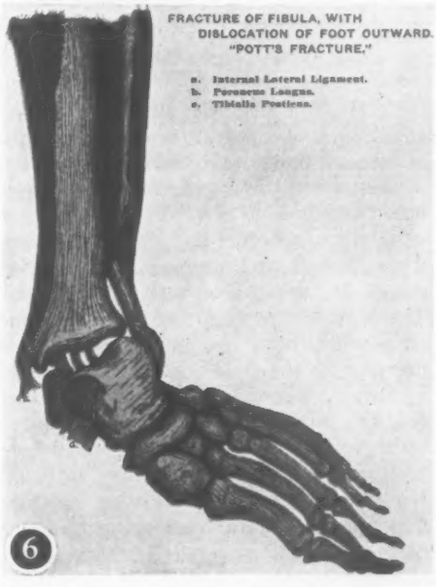
Illustration 4

Illustration 5

Treatment—First Aid

When the tendon of the biceps slips from its groove in the humerus, Ferguson recommends the following technique for replacement. "Raise the arm to the level of the shoulder, grasp the hand, and rotate the arm inward and outward. If this does not do the work, stand behind the patient, rotate the arm as before with one hand and work over the top of the shoulder with the ends of the fingers of the other hand. After replacement, tape firmly with a full shoulder cap bandage and rest the arm for a few days."

After treatment, absolute rest from active movement is necessary. In order to obtain absolute rest for the arm and


FRACTURE OF FIBULA, WITH DISLOCATION OF FOOT OUTWARD. "POTT'S FRACTURE."
a. Internal Lateral Ligament.
b. Peroneus Longus.
c. Tibialis Posticus.
6

Reproduced by courtesy of Battle & Company

relieve the heaviness of the shoulder, fixation of the part is necessary. Ferguson suggests placing a piece of felt about 2 inches by 1 inch by ½ inch over the injured area and fastening it in place with strips of adhesive tape. Heald recommends fixation "with the arm slightly abducted from the side by a fairly large pad, and the forearm fully flexed and supinated and held in position by a sling. . . ."[7]

The method used by the writer is as follows: Apply a pad in the arm pit so as to hold the arm in the abducted position. Using a 42-inch triangular bandage, make a sling by placing the bandage on the front of the chest with the apex of the triangle on the clavicle of the injured shoulder. Bend the elbow and place the forearm across the chest. The apex of the triangle is then turned down and tucked under the hand. The lower edge of the bandage is folded over the arm and the ends tied behind the back. This bandage takes the strain off the biceps tendon by supporting the weight of the shoulder and it prevents rotation of the forearm.

The use of the physical agents is secondary to rest. Heat by means of the infra-red generators, short wave and whirlpool baths gives valuable aid in promoting circulation and relaxing the tissues. Massage is contraindicated over the deltoid muscle, as it only irritates the condition. The physical therapy methods suggested, with carefully selected active exercises to prevent adhesions and atrophy of the muscles, will usually give good results.

[7] Heald, op. cit., p. 191.

Prognosis

When the person will be able to throw again with his usual speed is not a question of days, but weeks. Before any throwing is started, the individual must be free from all pain when using a screwdriver or combing his hair.

Fractures About the Ankle

LAST season, five cases of "broken ankle" were reported as having occurred to major league ball players. Why do baseball players break their ankles?

Let us review the anatomy of the ankle joint to see why this accident occurs. If you place your heel on the ground and extend your foot, you will note that you are able to turn your foot inward (inversion) very easily and that there is quite a range of motion. When you try to turn your foot outward (eversion), you discover that there is practically no movement.

When a player stumbles or trips, his foot is usually turned inward, and the result is a tear of the tendons and ligaments, resulting in a *sprain*. All so-called sprains of the ankle occur when the foot is extended and inverted. When the foot is turned outward (everted) the full force is applied to the inner side of the foot and, because of the lack of movement in that direction, the full force of the blow is on the bones. Often the result is a *fracture*.

History

The most important thing to discover in injuries about the ankle joint is how the injury occurred. If the foot was turned inward, a sprain is the usual result. If the foot was turned outward, a fracture should be suspected.

Causes

Why do baseball players have fractured ankles?

The injury occurs most often as a result of sliding; so let us analyze the method of sliding to see why the ankle bone is fractured. When a player does a hook slide, the inner side of the foot is parallel to the ground. The foot hits the bag and the player swings around the base. (See Illustrations 3, 4 and 5.) If, however, the foot gets caught in the bag or the baseman prevents the foot from turning, a fracture is likely to occur. The foot when in the sliding position is everted, and, when it is hooked and remains fixed while

(Continued on page 39)

Fred R. Powers

Problems Confronting the High School Track Coach

By Fred R. Powers
Topeka, Kansas, High School

SOME of the problems which confront the high school track coach are lack of interest on the part of good track material; ineligibility of capable boys; and track rules which are not adapted to the average boy of high school age. Lack of interest furnishes probably our largest problem. The other two problems are gradually being eliminated. The most recent eligibility rules governing athletes here in Kansas, as well as some of our recent track rules changes, are helping to reduce the last two difficulties. There are many other smaller problems, but the three already mentioned seem to be of prime importance.

In the smaller high school, where there are but a few boys, many of whom live in the country, there seems to be little trouble from lack of interest in track athletics. The boys who are not obliged to work usually go out for each sport in season as a matter of custom. They play football in the fall, basketball in the winter and, if they have time before the close of school, participate in track and usually like it. Most boys can find some event to which they can readily adapt themselves and from which they can derive considerable physical benefit, provided they are serious and persistent, and follow a regular program in their work.

In our larger high schools, the problems are quite different. There is usually more than one coach, and many of the boys the head coach does not even know by name during their sophomore and junior years, which time should be spent by the boys in learning some particular event. There seems to be a decided lack of interest on the part of many boys who have apparent potential ability but who for some reason or other are not on the list when the coach makes his call at the beginning of the season.

True enough, there are in the large high schools many extracurricular activities, many branches of spring athletics and many boys who are financially obliged to do outside work, which, of course, account for a large part of this difficulty. In the smaller schools there are not so many clubs of all varieties to take the boys' time and interest. I do not wish to belittle these other activities in any way, for they are certainly character builders and worth while. They have their place in every large school, and much good results from them. There are, however, other interests aside from school activities, many of which do not provide the good qualities that should be developed in the boy of high school age. It is the particular group of boys absorbed by these interests that we need to reach, whether it be through intramural athletics, personal canvass or any other method that may seem advisable to get out some of the best potential material in our larger schools. No boy is going to come out for track voluntarily and pass up some of the so-called "good times" unless there is developed in him an interest and a desire to participate in this spring sport.

A number of these boys will participate in some form of minor athletics to a limited extent, because they are not required to measure up to the standards of the interscholastic athlete. Lack of training, and parties and smoking have little effect on this type of athletics, which seem to furnish the boys with only another alibi for not going in for any particular sport in earnest. There are usually outside basketball teams and tournaments continued far enough into the track season so that the boy playing in these tournaments is automatically handicapped in case he decides to take up track at a later date.

We have a changeable variety of weather conditions here in Kansas that eliminates some of the more "timid" boys in competition. Our facilities are limited, and boys who are not satisfied to put up with conditions as they are, and cannot be improved upon, oftentimes lose interest early in the season and drop out. In a good many cases, gym classes can help to uncover material and to encourage boys to turn out when the call for track is issued. They can also furnish a substitute program, which may be followed during inclement weather when outdoor training seems futile.

Until this present year, we have been able to find only a few boys who had desirable stature for hurdles. In the high hurdles event, the average underclass boy could scarcely make the distance between hurdles in three strides, thus necessitating the alternating of leading leg on each hurdle, or the making of two additional steps, both of which practices we have seen at some of the larger high school meets here in Kansas. The height of the high hurdle has been reduced this year to 39 inches.

In the low hurdles, a similar situation existed, usually handicapping the short legged boy, who, although having considerable hurdling ability, preferred to select some other event to which he might be better adapted. The distance of the low hurdle event has now been reduced to 200 yards, 18 yards between hurdles.

This year, I think, the new rule change in both hurdle races is bound to provide an opportunity for the boy with the average build who has some ability, and it should materially increase the interest in these two events. Although they are more

(Continued on page 43)

NOW coaching high school track in Kansas for his eleventh year, Fred R. Powers has turned out a number of outstanding teams. He has annually entered men in many of the larger Kansas high school meets and has had one state championship team. Six times his teams have won the Baker Relays. A mile relay team coached by him set a new record at one of the National Interscholastic Track and Field Meets. Mr. Powers is a member of the Kansas High School Athletic Coaches' Association, which is active in promoting better standards for all branches of athletics among the Kansas high schools and which has recently adopted The Athletic Journal as its official publication.

Some Variations of the Huddle and Shift

By Lynn O. Waldorf
Head Football Coach, Northwestern University

Lynn O. Waldorf

THE brilliant coaching record of Lynn O. Waldorf at Oklahoma A. & M. College and Kansas State College is too well known to need recounting here. He is a graduate of Syracuse University, where he played well enough as a lineman to win a place on one of Walter Camp's honorary teams. He has recently assumed his new duties as Head Football Coach at Northwestern University. The material published here was originally presented before the Fourteenth Annual Meeting of the American Football Coaches Association.

I BELIEVE there is no point in discussing the advantages or disadvantages of the huddle. Nearly every coach has found it to be an excellent way for the quarterback to give the signals to the team. So let us discuss very briefly certain types of the huddle, and ways of coming out of it.

One way to form a huddle is to have the quarterback 7 or 8 yards behind the line and have the other members of the team gather around him to get the signal. Most teams, however, rather than have a more or less haphazard system of grouping the men in the huddle, have used various types of loose huddles.

I should like to illustrate two or three types of huddles which have been used, and with which you are no doubt familiar.

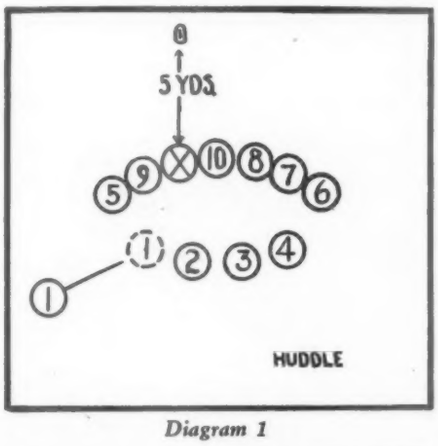


Diagram 1

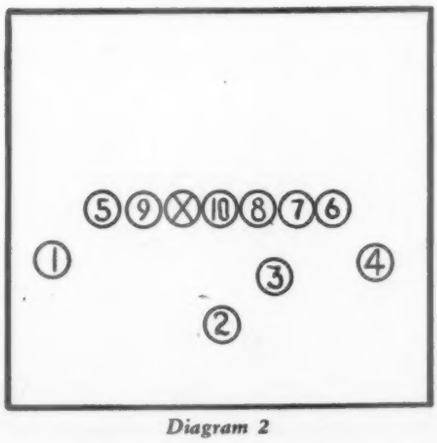


Diagram 2

In one type, shown in Diagram 1, the center is about 5 yards directly back of the ball, and the other men form an unbalanced line. The two men on each end of the line are slightly turned in. All the linemen have their backs to the ball; their hands are on their knees and they are facing toward the quarterback. The three backs, other than the quarterback, are facing toward the ball and in a similar position to the other players.

Now, here is one point in regard to the quarterback with which I have experimented a little bit. Rather than have the quarterback in the huddle, to start with, I have tried having him off about 3 yards from the huddle, apparently to look over the defense. He will not obtain much help in the choice of the play, for the average defense will be shifting around, but there is a definite advantage if he is off to one side. He is at least temporarily removed from whatever confusion there may be in the huddle. He is away from the suggestions of the other men; he has the opportunity to make up his mind as to the play to be called; and he can come in and give the signal with conviction.

Coming out of the huddle from this variation, the center moves first and gets over the ball. On the hike the other men walk out and into their positions.

For instance, if the formation is going to be a double wing-back, the players come out of the huddle as indicated in Diagram 2. They might come out into a single wing-back with unbalanced line, as indicated in Diagram 3, or into a balanced line, as indicated in Diagram 4, by bringing the outside tackle over. This tackle crosses behind the other linemen as they go forward into position. That is one method of coming out of the huddle.

Now, the huddle, of course, has certain advantages in that it permits variations in the formation to be made and variations in the positions of the various individual men on certain plays. Some teams have devised methods whereby there is an in-

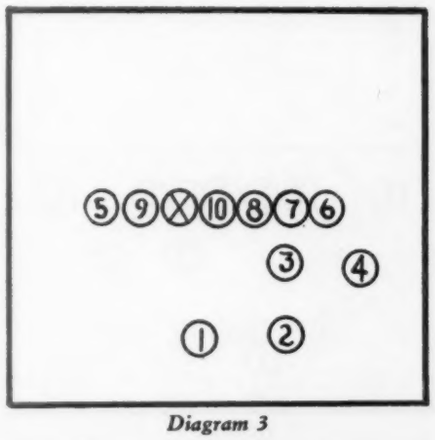


Diagram 3

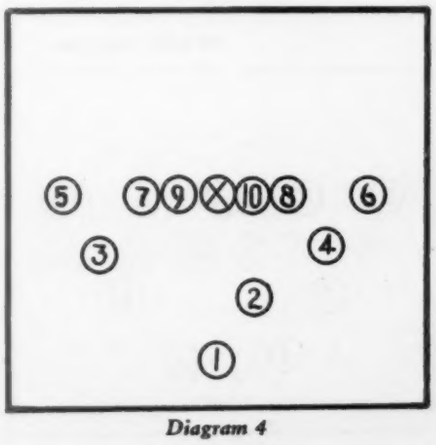


Diagram 4

termediate step after the men come from the huddle. They come into a pre-shift position and from that they shift to a variety of formations. This was shown incidentally in the movies of Colgate and Ohio State. Each uses the pre-shift position and then comes into final position. I think there is an advantage in the pre-shift position, as it gives an additional opportunity for the offense to change formation and vary the positions of the men.

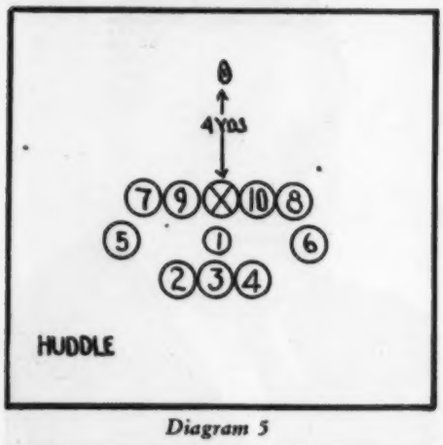


Diagram 5

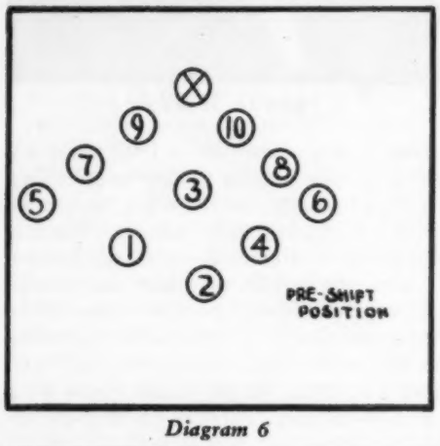


Diagram 6

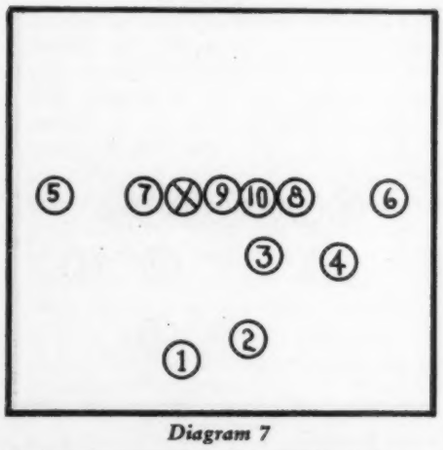


Diagram 7

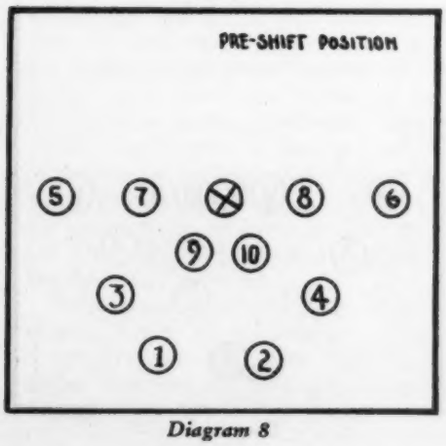


Diagram 8

I should like to illustrate several types of this pre-shift position. One type, used by Minnesota, on which Bernie Bierman was kind enough to give me information, is shown in Diagram 5. The center is 4 yards back of the ball. The guards and tackles are on a straight line, even with the center and with their backs to the ball. The ends, 5 and 6, the quarterback, 1, the fullback and halfbacks, 2, 3 and 4, are in the places indicated. As they come out of the huddle, they take positions shown in Diagram 6. The center is over the ball and three linemen are on each side of him. Each of them is facing in. They then, in three walking steps, come into the final formation, such as the loose, single wing-back formation as shown in Diagram 7.

You can see that there is a wonderful opportunity there for the varying of the formation and the positions of the individual men.

Another type of huddle used in the Middle West, with pre-shift position, is that employed very effectively by Iowa State. See Diagram 8. The center is over the ball, the tackles out two spaces and the ends out a little farther and facing in. The guards are back of center. The backs are as shown in the diagram. They are then in such position that they can easily shift into a balanced line with the short punt formation in the backfield. The two guards shift up, the tackles shift in, the ends vary their positions from their tackles and the backs shift in to make the short punt formation, as shown in Diagram 9.

Iowa State also shifts into a box formation with the line balanced, as shown in Diagram 10. If the players desire to go into a formation with an unbalanced line, both of the linemen back of the center shift to the same side of the line. The backs shift so as to form either a single or a double wing-back formation, as shown in Diagrams 11 and 12. It is possible for this team to shift easily and rapidly into any one of the four or five formations without giving the defense much opportunity to get properly set.

D. X. Bible has a shift at Nebraska that has been very effective; in fact, many times during the game we played with Nebraska, we could not tell into what formation the players shifted. This is a different type of shift. Diagram 13 shows the pre-shift position. The center is over the ball. There are then seven men in a line about a yard behind center. One of those seven men is a backfield man, whose position in the line will vary according to formation. There are three backs behind this row of seven. From that position, the players very easily shift into a balanced line, with a short punt formation in the

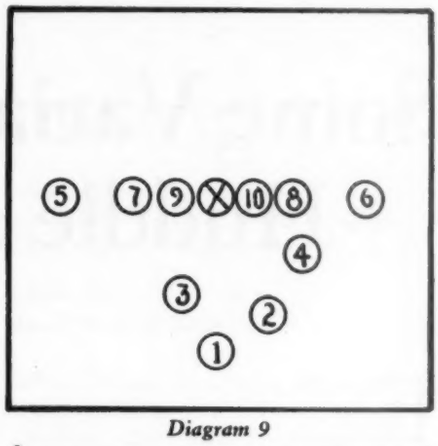


Diagram 9

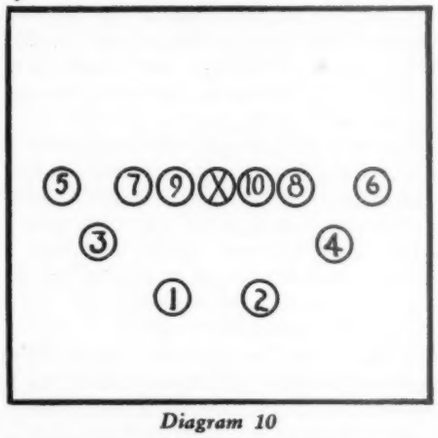


Diagram 10

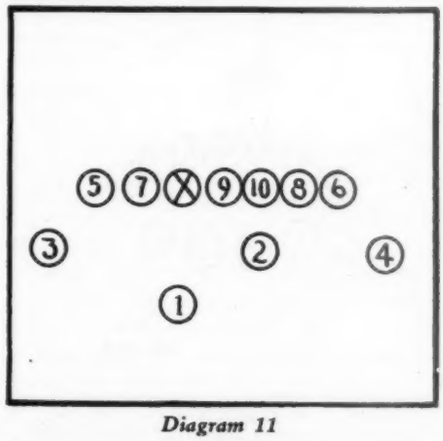


Diagram 11

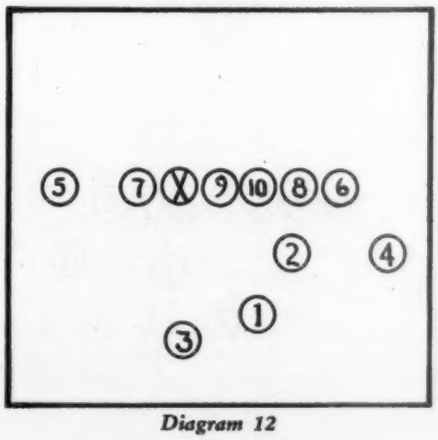
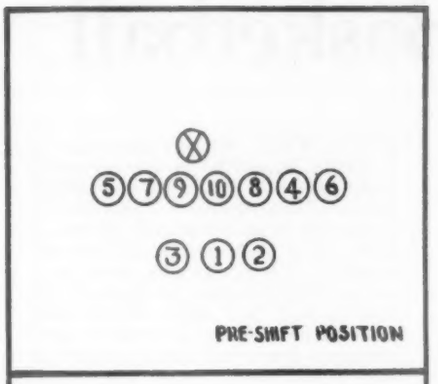
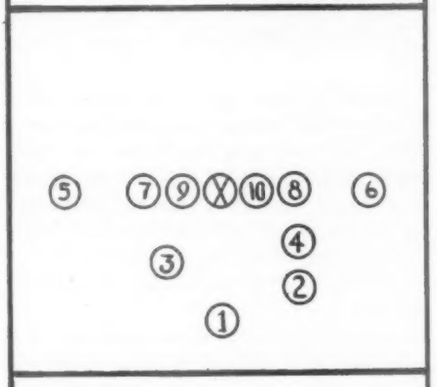
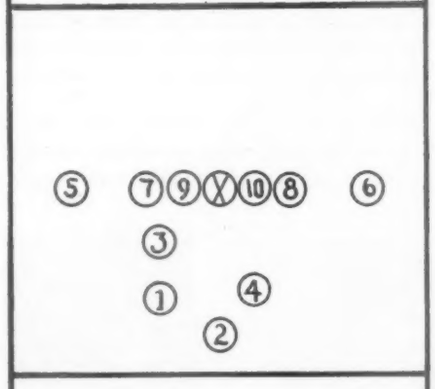
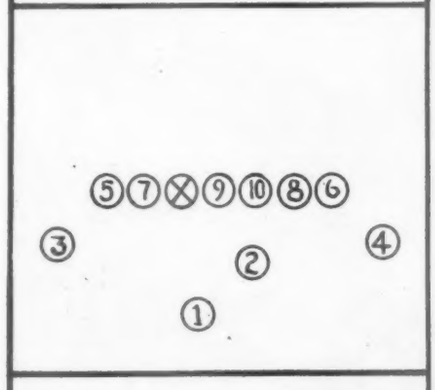


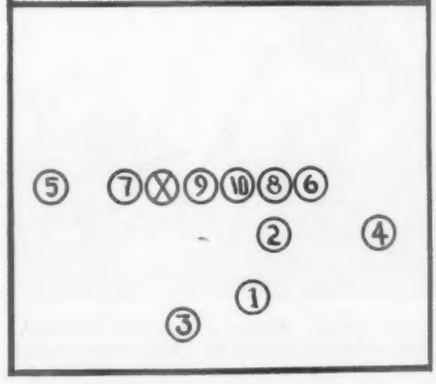
Diagram 12











backfield, as shown in Diagram 14. There may be two backs in a tandem to the right as shown in Diagram 14, or there may be two backs in a tandem to the left, as shown in Diagram 15.

From the positions shown in Diagram 13, Nebraska players may easily shift into the double wing-back or into the single wing-back, with an unbalanced line. See Diagrams 16 and 17. The men are so placed behind the line of scrimmage that one step and a hop put them into position.

Another type of huddle and shift, one that we used at Kansas State, is shown in Diagrams 18 and 19. Instead of a sort of half-moon or elliptical huddle, we used a more or less circular huddle with the center about 5 yards back of the ball. The quarterback, 1, was out on one side, until he decided on the play to be used. Then he came in and gave the signal. The players came out of the huddle on the hike, and an effort was made to so plan the huddle that each man could reach his final position in the pre-shift at approximately the same instant; that is, the feet of all men would hit the ground at the same time with the center over the ball and other players as shown in Diagram 19.

As the men in the front of the huddle nearest the line of scrimmage moved forward, other men would have a chance to crisscross back of them. It is possible to use a huddle in which all of the men will have to crisscross to get into position.

Getting into a single wing-back from this formation is accomplished as indicated in Diagram 20.

From the same set-up, of course, it would be possible to go into a double wing-back, with the tail-back becoming the left wing-back. See Diagram 21.

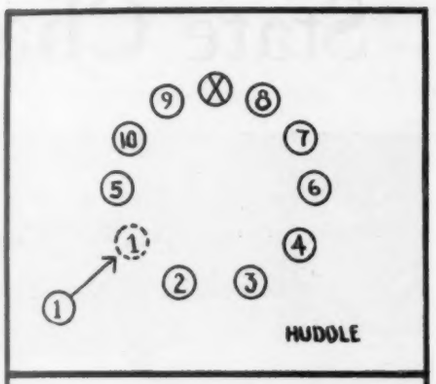
Another possibility from the original shift is shown in Diagram 22.

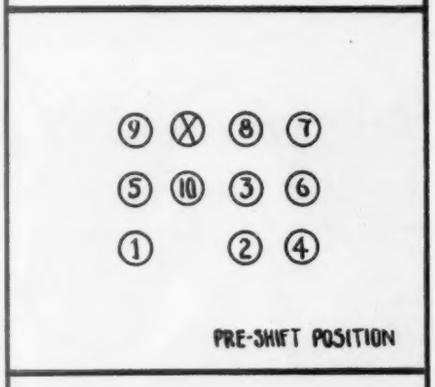
There are certain advantages in the opportunity for variations in each formation as well as in shifting rapidly and legally into a variety of formations before the defense can get set. There is an opportunity for variation in position of individual players to take advantage of special abilities. There are certain disadvantages. The shift takes time to learn. It takes a certain amount of time out of the game. However, I checked our play statistics for last year, when we did not use it, and this year, when we did, and found very little difference in the number of plays per game.

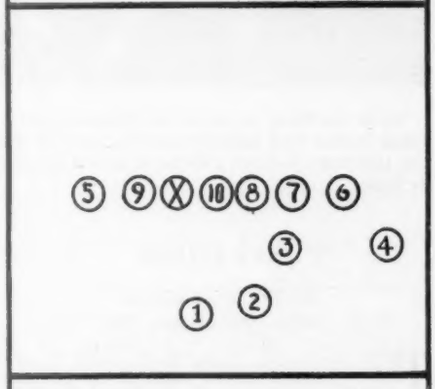
I believe that most boys like the shift, like to go through it, and I believe that the rhythm of the shift is of certain value in helping the timing of the play.

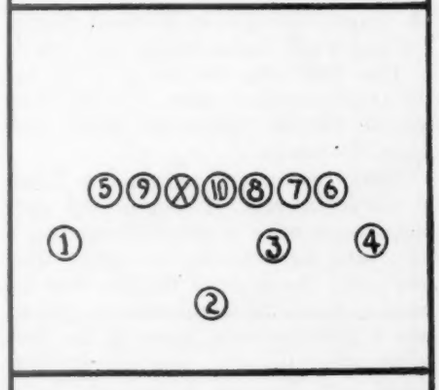
Left (reading from top to bottom) Diagram numbers 13, 14, 15, 16, 17.

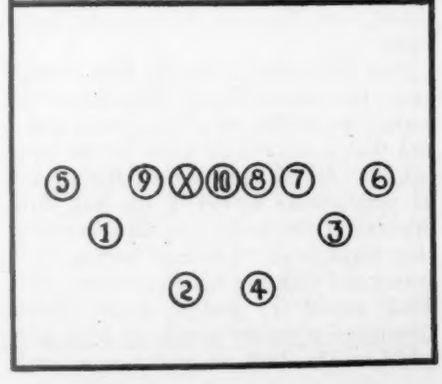
Right (reading from top to bottom) Diagram numbers 18, 19, 20, 21, 22.



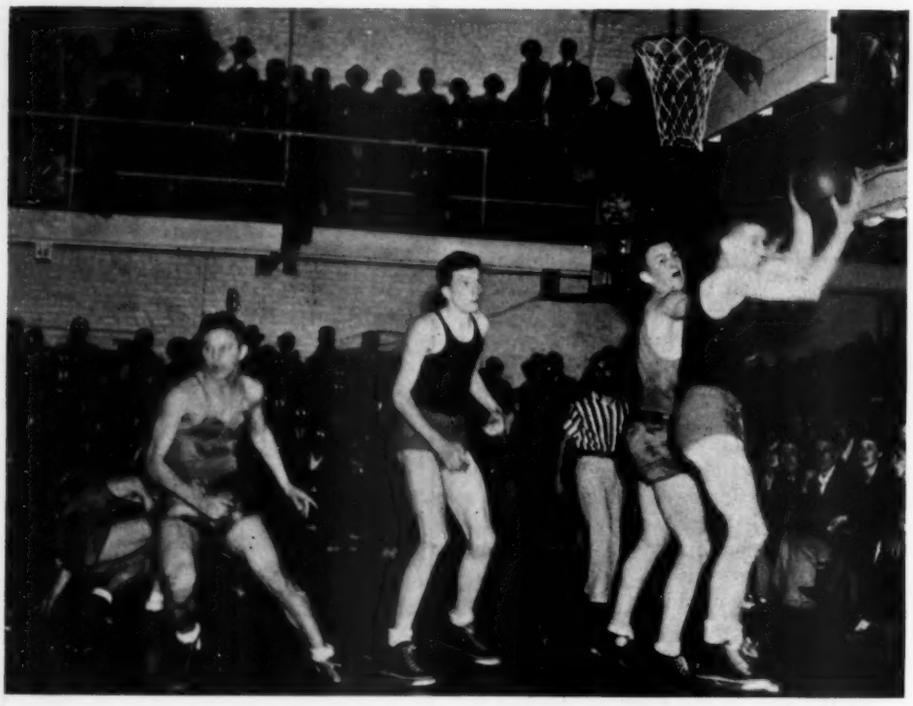








State Championship Basketball



From the final game of the Oregon State Tournament. The man getting to his feet has taken a shot and missed, and the man on the opposing team has recovered the ball. Notice the position of Anet, All-State guard from Astoria, under letter B, who is starting back on defense.

PRESENTED here are the first of a number of articles by coaches whose teams have won 1935 state high school basketball tournaments. These articles may serve as an interesting review of high school basketball throughout the country. They may also serve as a source of information for coaches who wish to study and adopt the best and most recent of basketball practices and strategy. Other articles by coaches of state championship teams will appear in the next issue.

Arkansas

By W. A. Dunaway
Junius Jordan High School, Pine Bluff

THE Arkansas State Basketball Tournament was held in Harrison, March 7, 8 and 9, and Junius Jordan High School of Pine Bluff won the championship for the third successive time, defeating Russellville, McNeil, Beebe and, in the final game, Greenland.

There were several outstanding things in this tournament. I believe there were more teams using a zone defense than I have seen for a number of years. This was partly the result of the fact that the court on which the tournament was played was a little narrow. Some of the best teams, other than the ones already mentioned, were Harrison, Fordyce and Little Rock.

Pine Bluff used a man-for-man defense and a fast-break offense. Throughout the season, we drilled on a fast-break, and I feel that it showed its value at the tournament. In the game against Russellville, 13 points were scored in the last three minutes of the game. In the championship game, with Greenland leading by 8 points and with five minutes to play, Pine Bluff scored 13 points, while holding Greenland scoreless, to win out by a score of 36 to 31. Had we used a slow-break, I believe it would not have been possible to score these points. During the tournament, we used practically no set plays, although we worked on a few during the year, mostly for drill purposes rather than for use in games. We used out of bound plays both at the side and at the end of the court. We also used tip-off plays at center.

Our offense was built around the captain, Burnette, a small running guard who was an exceptionally fast floor man and also a good shot, as proved by the fact that he scored 14 points in the championship game against Greenland. This was his fifth state tournament, two junior tournaments and three senior tournaments, in which his team has never lost a game.

Another incident from the Oregon championship game. Player 2 has just finished a lay-in shot. Notice that he is well in front of his defensive guard, 1. The other Astoria forward is in position to follow up the shot.

One of our forwards, "Red" Bennett, proved himself an accurate shot with one hand. Our tall center, Rimmer, controlled the tip most of the time during the play. Our other forward, Kennedy, was a good follow man and also a good shot around the basket.. Our other guard, English, did very little scoring but was a strong defensive player.

We drilled throughout the season on a fast-break. The drills we used were simple, three, four or five men going at top speed with the idea of getting the ball down the floor as fast as possible. I think one of the secrets of the success of our team this year was the condition of the players and their ability to keep going fast to the end of the game.

The Greenland team, which we beat in the championship game, was from a small town, but it was undoubtedly one of the best teams in the state. The team was built around the forward, Millsap, and a left-handed center, Newman. The players used a zone defense and both a slow- and a fast-break. Most of the time, though, they depended upon keeping the ball and not turning it loose without a good chance to score. I believe this is the first time in several years that a team using a zone defense has gone through to the finals in an Arkansas tournament. The players of the entire team were rangy, and their defense was very effective on a narrow court.

The best drill we used during the year is a two-line drill in which two balls are used. This drill and two variations of it are shown in Diagrams 1, 2 and 3. In Diagram 1, two groups of players, A and B, are arranged along the side lines near the center of the court. X1 passes to X5, who meets the pass. X1 breaks for the basket, and X5 returns the ball to him. X1 dribbles in or shoots from the spot where he received the ball from X5. X5 follows the shot, takes the ball off the backboard, dribbles out toward the corner and passes back to X3, who meets the pass and starts the drill again by passing to X7. A second ball, held by X2, is passed across to X6 as soon as X1 and X5 are out of the way. Thus, two balls are kept in constant motion.

W. A. Dunaway, Arkansas

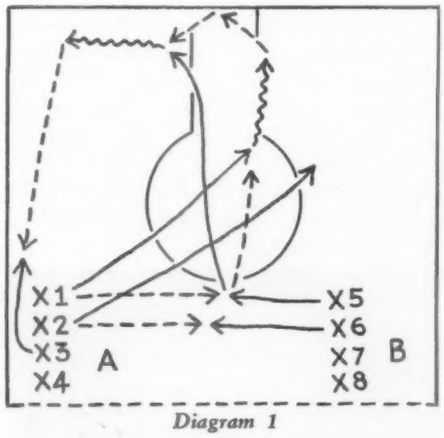


Diagram 1

The first variation of the drill explained above is shown in Diagram 2. X1 takes the ball from X5, after having passed to him, dribbles, stops, pivots and passes again to X5, who dribbles in for a shot. X1 follows the shot and passes the ball back to X3.

The second variation of this drill is illustrated in Diagram 3. X1 passes to X5, cuts, takes the ball from X5, dribbles, pivots, passes again to X5, cuts for the basket, receives another pass from X5 and shoots. X5 follows the shot and passes the ball back to X3.

One of our tip-off plays is shown in Diagram 4. X1 tips the ball to a forward, X3, who passes at once to X5 cutting toward the basket. X5 throws a long pass to X2, who has crossed the floor. X2 passes to X5, who may dribble in and shoot. Or X5 may pass to X1 for a shot under the basket.

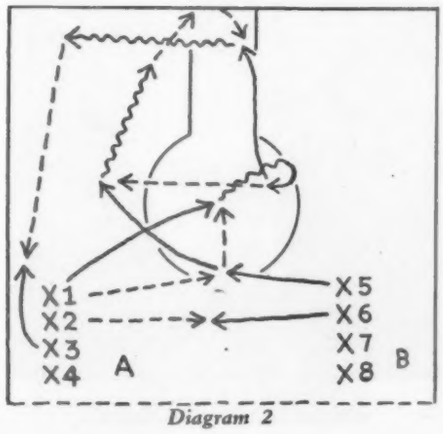


Diagram 2

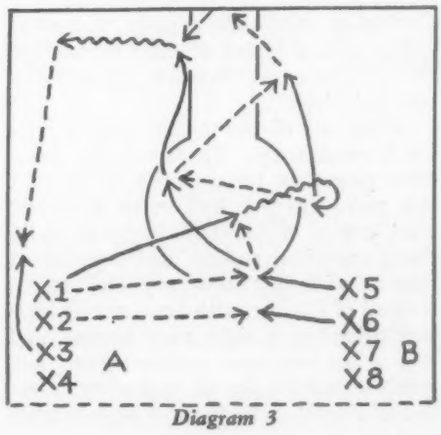


Diagram 3

Colorado

By Joseph W. Erps
Colorado Springs High School

COLORADO SPRINGS High School, state champion of 1932, won the 1935 championship; Manual High School of Denver, semifinalist in 1934, was runner-up; Sterling, also semifinalist last year, took third place; and Pueblo Central, champion in 1931, placed fourth. North High School of Denver, state champion in 1934, did not survive league competition. The tournament was played in the Municipal Auditorium in Denver, March 14, 15 and 16.

The district tournaments produced probably the strongest competitors in recent years. Pre-tournament favorites were Sterling, Manual High of Denver, Eaton and Pueblo Central. Colorado Springs, made up largely of inexperienced players, was not considered strong or consistent enough to be a threat. Colorado Springs tied with Pueblo Central in the South Central League and lost in the play-off. Colorado Springs then swept through the fourth district tournament rather easily, defeating Pueblo Central in the final game, 27 to 16.

The Associated Press placed three Colo-

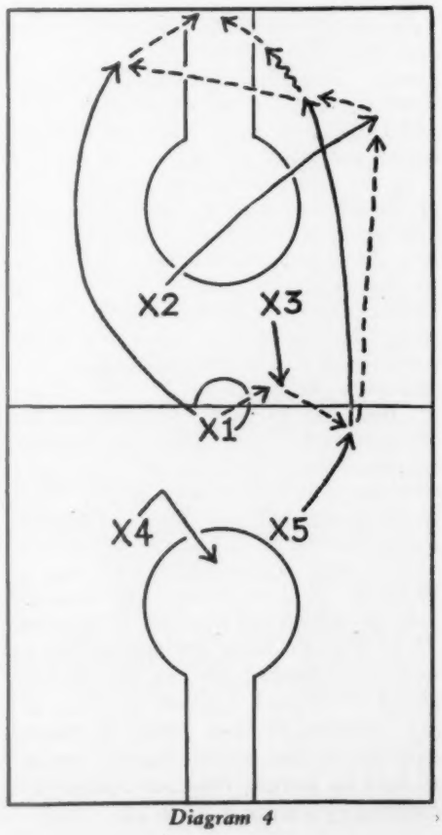
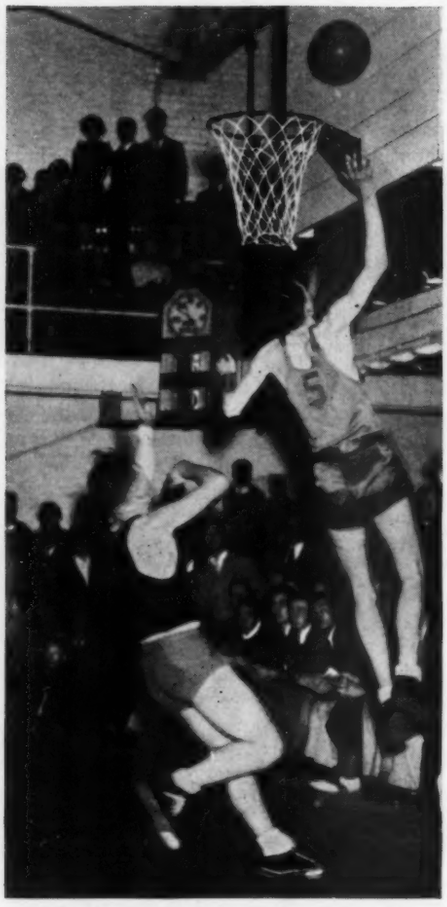


Diagram 4



A bit of action from the Oregon State Tournament. This is a very good demonstration of the lay-in shot. Player 5 is Sarpola, All-State forward from Astoria.

rado Springs players on the first All-Tournament Team. Atkinson of Colorado Springs, guard; Oster of Colorado Springs, guard; Hendricks of Colorado Springs, forward; Cochran of Sterling, forward, and Eicholtz of Manual High of Denver, center, comprised this team.

In the first round, Wray, co-champion of the Eastern League, sent McClave, a fighting outfit from southeastern Colorado, into the consolation bracket, winning, 43 to 33. Kirk eliminated Erie, 25 to 16. Golden, Denver suburban league winner, won from Sargent, San Luis Valley representative, 27 to 19. Manual High, Denver champion, defeated Vona, 33 to 18. Manual High had too much size, skill and reserve strength for the Southeastern League representative. Sterling, top favorite to win the 1935 tournament, buried Glenwood Springs under a 38 to 15 landslide. Pueblo Central proved too much for Delta, western slope representative, by a score of 27 to 19. Eaton's big boys put Durango into the consolation brackets by winning, 37 to 27. Colorado Springs, taking an early lead, finished the first half 20 to 6 ahead of Trinidad, southern Colorado entry. Content to coast during the second half, and putting on only enough "steam" to hold its margin, Colorado Springs triumphed by a score of 37 to 24.

The second round produced many upsets and spills. Manual High had difficulty in beating Wray, 22 to 14. With one and a half minutes to go and with only a 4 point margin, Manual stopped a determined Wray rally. Pueblo Central engaged Eaton, a dangerous contender, in a most thrilling game. Trailing throughout the early part of the game, Pueblo Central came through with a rush in the final minutes to defeat the northern Colorado team, 28 to 24. Sterling outclassed a battling Kirk outfit, 42 to 14. The Colorado Springs Terrors put the Golden Demons out of the tournament by winning, 21 to 9. The close knit defense of Colorado Springs restricted Golden to a few long shots, the first half ending with the former team in the lead, 14 to 2. Golden scored only two field goals during the game.

The semifinals produced the thrills of the tournament. Colorado Springs fought off a story book finish by the Sterling Tigers, 40 to 37, thereby getting revenge for the 1-point defeat registered by Sterling in the first round of the 1934 tournament. When only six minutes were left to play, Colorado Springs' giant guards fouled themselves out of the game. With the loss of the guards went the tip-off and the steadying influence of the veteran Atkinson. Leading, 36 to 18, Colorado Springs players saw their margin cut down by the greatest rally in Colorado high school tournament annals, but the Terrors had enough reserve strength left to win out by a 3-point margin. Manual High Bricklayers defeated Pueblo Central, 18 to 11, both teams finding it hard to penetrate the other's defense.

In the finals of the tournament, Colorado Springs defeated Manual, 15 to 8, Manual's zone defense forcing the Colorado Springs sharp shooters to use long range shots. Sterling, pre-tournament favorite, won over Pueblo Central for third place, 33 to 22. Trinidad Miners beat Durango for the consolation trophy, 49 to 18.

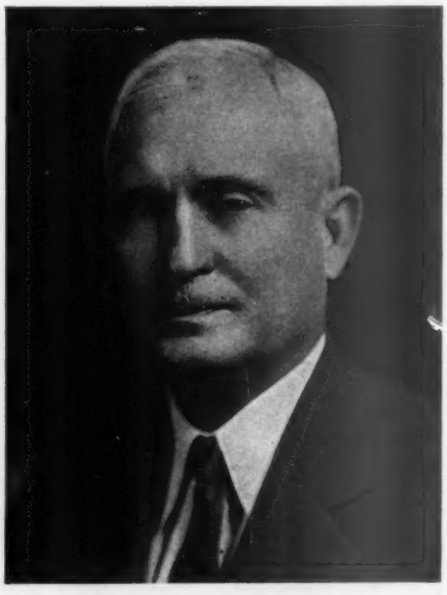
Less than half the teams used types of zone defenses, many teams having shifted to the man-for-man type since 1934. Defenses used by the semifinalists were as follows: Sterling and Pueblo Central used man-for-man defenses. Manual had a rock ribbed shifting zone, highly effective near the basket. Colorado Springs, with what was generally styled a shifting zone, in reality used a man-for-man defense with zone principle.

Nearly all of the teams used a fast-break consistently. There was less deliberate play than usual in the tournament this year. Sterling had an exceptionally good group of big fast boys; splendid shots, good ball rustlers and experienced players with a "never say die" spirit. Manual of Denver, with large, strong boys well drilled in a tight zone defense, and with a fast-break and some set plays, was tough opposition for all opponents. Central of Pueblo had a team of large, rugged and experienced boys, all of them good shots. Using a fast-break and a tight man-for-man defense it presented a typical tournament team.

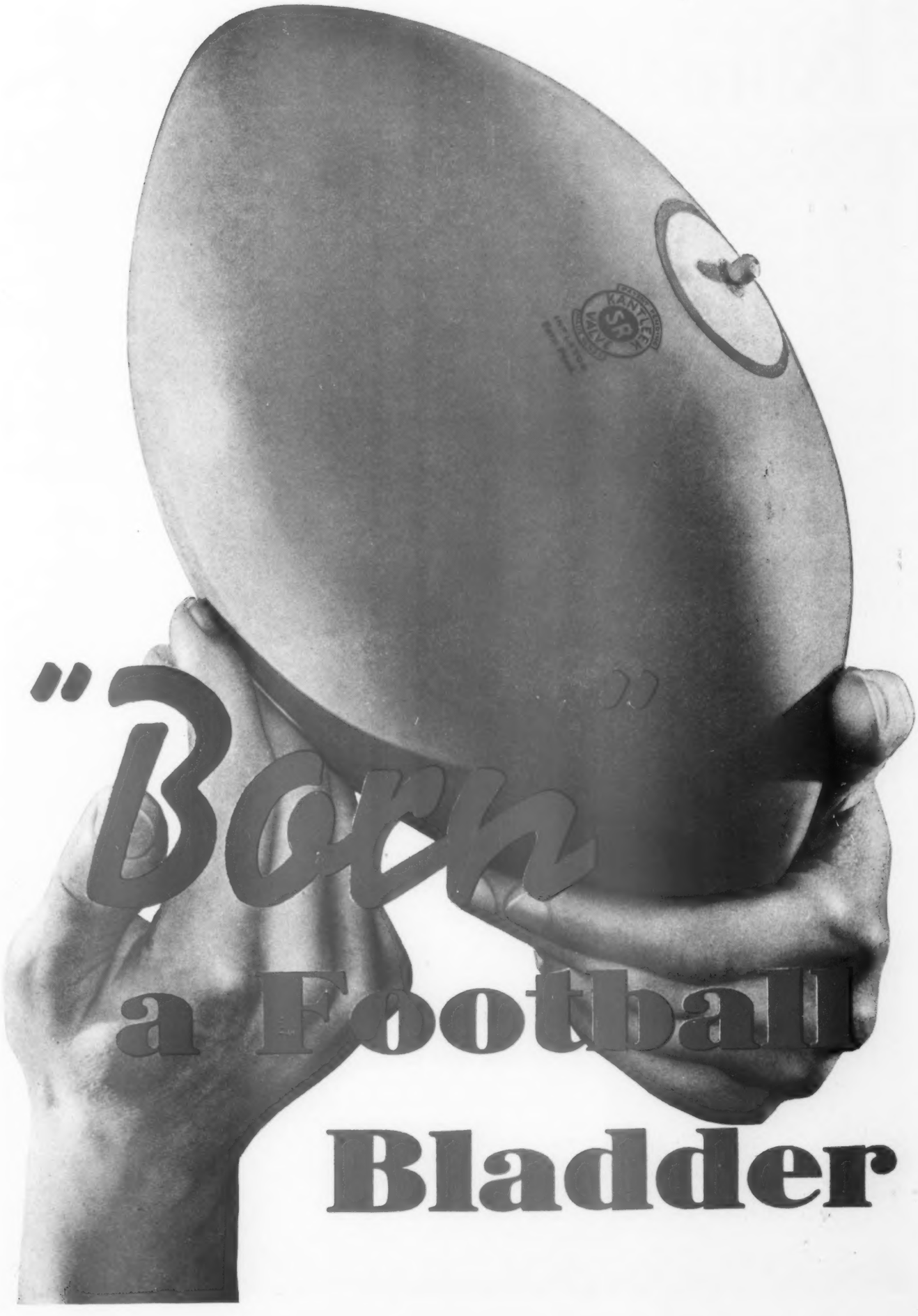
Colorado Springs presented a varied attack, using a fast-break as well as a deliberate type for advancing the ball. Well known as a team depending upon short shots, this team upset its opponents with accurate long shots when defenses piled up too near the basket. The players were content to pile up a comfortable lead early in every game and then play less strenuously during the second half. The poise and confidence shown throughout the tournament was absent only once, and that in the closing minutes of the Sterling game when the team had lost the steady Acting Captain Atkinson.

With only one veteran of tournament experience in the line-up, the Colorado Springs team exhibited a smooth ball handling group which kept the game under control practically all of the time. Every man was a good shot, as well as a clever ball handler and dribbler. Playing fast or slowly, they knew how to conserve their energy and they finished the tournament in excellent condition.

The Colorado Springs team used very few set plays, depending largely upon passing and cutting. The team was a unit in playing to win. There was no attempt of a single player to star at the expense of the team. Hendricks, Oster and Atkinson, all of them selected on the All-State Honor Team, carried the brunt of the offensive, although Fox, clever and fiery forward, led the scoring in one game. Coon, the other offensive player, never reached his pre-tournament form. Although off in his shooting, he was a power in offensive ball handling and on defense. The reserves, Thompson, a small, fighting player; Lepel, reserve center, who was handicapped with a bad knee; and Middle and Stimits, utility



Joseph W. Erps, Colorado



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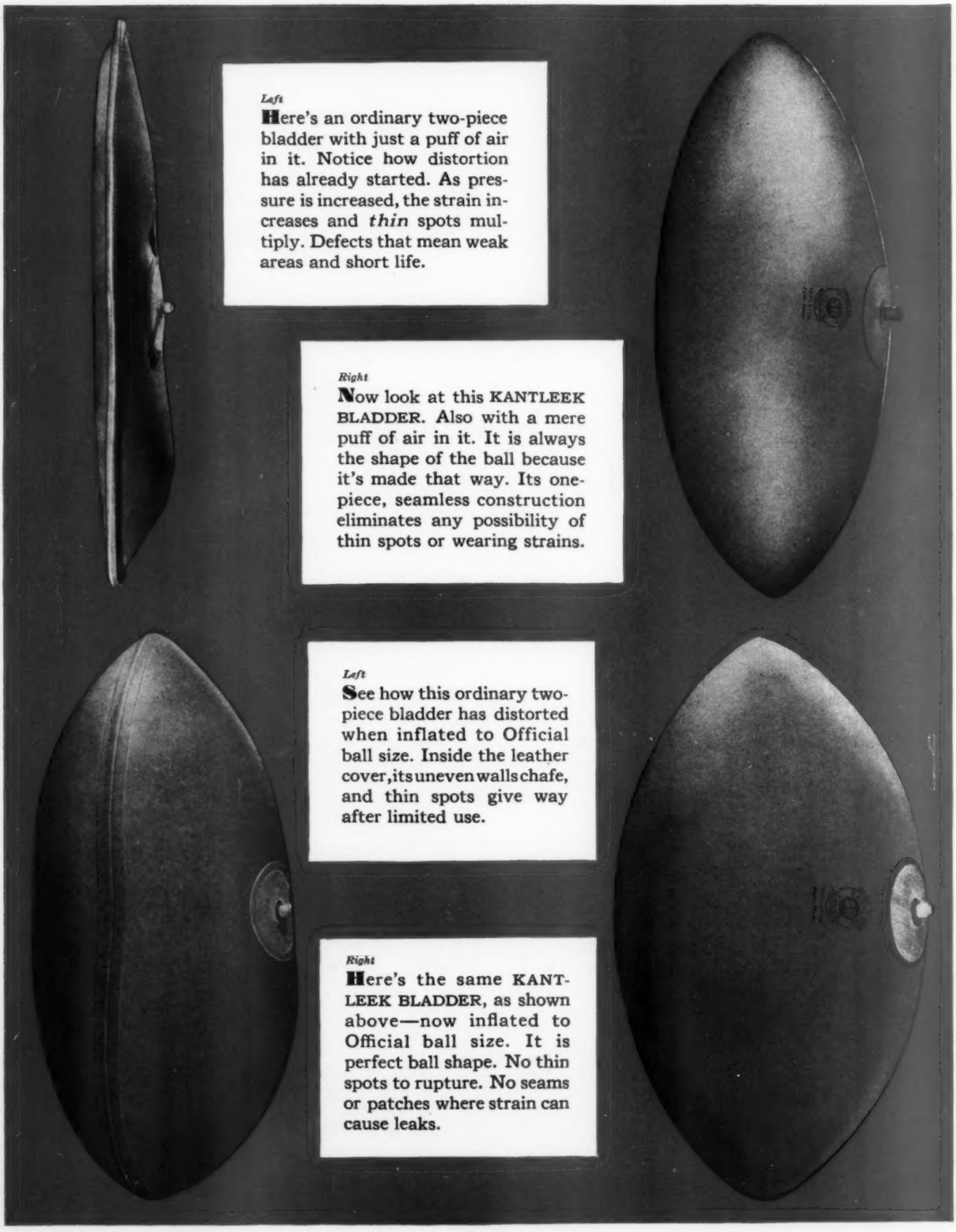

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Right
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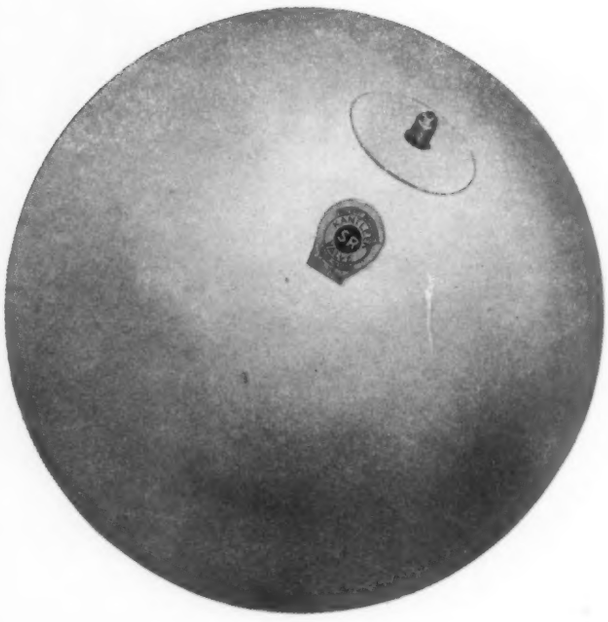

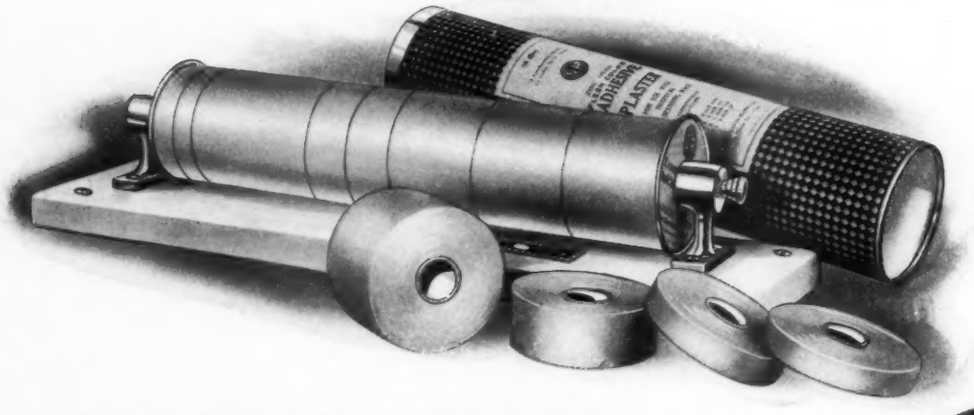

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Aims of the Wisconsin High School Coaches Association

By Louis E. Means
Green Bay, Wisconsin, High School

FOR many years in the State of Wisconsin there has been a growing sentiment within the high school coaching profession in favor of the creation of a state coaches' association. At almost every gathering of athletic heads, a need was expressed. It was clear there was a definite need in the state for better co-operation and unified remedy of existing evils. At a social gathering of coaches at the 1934 state basketball tournament, this need was emphasized by many of those present. Out of this expression came the initial steps toward organization, which was effected last spring. An account of this was published in THE ATHLETIC JOURNAL, February, 1935.

Primary Objectives

THE organization, known as the Wisconsin High School Coaches Association, set up as its aims and objectives the following principles:

1. To foster and encourage a better understanding among coaches of the state.
2. To place coaching on a better educational basis and more in line with the policies of all other educational administrations.
3. To develop and promote higher social and ethical practices on the field or court.
4. To provide an opportunity to bring before athletic coaches many valuable studies and presentations on methods of technique and phases of coaching which would be of great benefit to coaches as a group.
5. To co-operate in every way possible with the Wisconsin Interscholastic Athletic Association in the promotion of a broad and wholesome high school athletic program.
6. To establish and maintain the highest possible standards of sportsmanship.

To develop plans for the year, the Chair formed several committees, as follows:

I. Constitution and By-Laws: Coaches A. J. Barrett of East High School, Madison, Guy Lowman of the University of Wisconsin, and A. W. Olson of Rice Lake.

II. Membership: Coaches Charles DeVinney of Columbus, Bill Stocum of Milwaukee, Bill Smith of Milwaukee, C. J. Abendroth of Sheboygan, and all District Representatives.

III. Press: Coaches Ernie Ziebell of Racine, Ivan Cahoon of Went High School, Green Bay, J. S. Jensen of Altoona, and L. A. Erickson of Shorewood High School, Milwaukee.

IV. Program: Coaches Mart Gharrity of Shawano, "Lena" Blackburn, William Olson of Tomah, and Cabby Ewers of Wausau.

A number of meetings have been held, as outlined in THE ATHLETIC JOURNAL for February, 1935.

Progress to Date

SEVERAL outstanding objectives are being realized already, even though the organization is still an infant. One of the finest influences, already growing, is the splendid professjonal attitude which is adding to the social values of such a group

Louis E. Means

to make a real set-up of state-wide co-operation which should go far in elevating standards over the state. It has had a unified influence on rules changes. Football rules changes have been a matter for state-wide consideration growing out of a questionnaire sent out from the office of the writer, who is President of the Association. Almost all schools in which football is played returned this questionnaire eagerly, requesting several changes in the football code, but in the main heartily endorsing the changes in forward pass rules passed last year. Desire for wholesale change was not indicated by this poll.

These recommendations were presented to the National Committee by Werner Witte of Appleton, the Wisconsin representative. One change almost unanimously desired was the return of the goal posts to the goal line to increase scoring. The attendant need for safe posts which would not be an injury hazard was also emphasized in the questionnaire. Other changes receiving stress were more free substitution, with talking privileges, and additional time out privilege. These questionnaires also brought out clearly that the athletic men over the state desired clinical rules study and many opportunities to talk over common problems.

Position of Coaches

IT seemed an almost state wide feeling that coaches should be more frequently considered in the matter of high school athletic administration, and that in every case possible the coaches should have representation on committees, boards, rules changes groups and every other group which seeks to make radical or revolutionary changes in athletic policies. Heretofore, coaches have had no representation, and the high school principals have done all the legislating. Many high school principals have this work at heart and render a particularly fine service, but it is generally known that there are many principals who still consider athletics a necessary part of their school curriculum only because of public pressure, or precedent and tradition. Officials have made all the rules changes and interpretations; yet the coaches are always the most affected by all such changes. Certainly it is reasonable that men who have spent most of their life fitting themselves for athletic administration in many good schools over the country should be consulted at least equally with men who have spent, in most cases, but very little of their life in actual contact with athletic problems.

Coaches today, in most cases, are men who have graduated from schools with a fine physical education department, and have been specially trained. Most of them do not stop at that, as so many academic teachers do, but prefer to go on and on, visiting every coaching school in the country, investing part of their annual salary in this pursuit of knowledge, and always trying to keep abreast of, or ahead of, the most modern trends. The very nature of their work makes this necessary, as the coaching profession is based upon a survival of the fittest, and competition is always keen. Coaches are constantly studying new methods of equipment handling technique, first aid, athletic organization, intramural athletic programs, care of stadia and buildings and many other types of physical education equipment.

There was an implied request coming from these questionnaires that the coaches be permitted to join other groups in codifying and changing track rules which are not now always clear. Whether this request produces any immediate results by

(Continued on page 42)

Remaking the Gymnasium

By Sidney R. Boyd
Director of Physical Education, Public Schools, Ashland, Ohio

IN this article, Sidney R. Boyd, Director of Athletics in a progressive Ohio school system, points out mistakes often made in constructing gymnasiums and tells how some of these errors may be remedied. He also outlines ways in which physical education directors may secure assistance in remaking gymnasiums and keeping them in repair. Mr. Boyd has had experience in remodeling several gymnasiums, and his article on a frequently neglected subject will be welcomed by old as well as young coaches.

FORTUNATE are physical education instructors and coaches whose gymnasiums are built and serviced in such a manner as not to require constant remaking of certain parts of them. Equally fortunate are those instructors who have sympathetic co-operation on the part of superintendents, college administrators or custodians for the making of parts originally unprovided for, or the remaking of those in need of immediate repair.

It is the purpose of this article to point out places in which construction, repair or remaking is necessary in a great many gymnasiums, and to indicate opportunities that physical education instructors can find for alleviating their troubles. To find ways and means of making the gymnasium usable to the greatest degree requires considerable time and effort on the part of the instructor in charge. Perhaps it should not be his concern, but it generally turns out to be.

The Adequate Gymnasium

MANY gymnasiums are constructed for limited use. As added uses for a wider variety of sports and games are needed, adjustments have to be made to fit the needs. Furthermore, many places in the gymnasium will have to be rebuilt to avoid breakage and to insure safety to participants. Very often, architects cannot foresee the uses to which the gymnasium will be put, and they do not seek the advice of physical educators who can. One has only to visit a few high school and college gymnasiums to observe various monstrosities in construction which should never have been allowed in a gymnasium. Too many gymnasiums have been built solely for a program of basketball, and for accommodating spectators for that game. The installation of permanent concrete or wooden stands to occupy a third or more of floor space is deplorable.

The first requisite of a gymnasium is the making possible of the full use of all kinds of activities that may be promoted. This may include such a variety of activities as volley ball, basketball, handball, wrestling, fencing, indoor track, indoor baseball and a large number of games of low organization. For the games of volley ball and basketball, it is advantageous to have at least two cross courts to accommodate more players at a time than could play on one court. This is particularly important in the required and intramural programs. Extra basketball goals, erected in several places for shooting practice, will prove worth while. In addition the walls may be surfaced to allow for several handball courts. An adequate scoreboard should be installed for basketball games. Also, a small service scoreboard may be needed for intramural games when the larger board may be inconvenient to operate. Floor marking for all types of games should be done to make possible a large variety of activities.

A continual source of annoyance to the custodian of the building, as well as to the instructors, is the breakage of parts in the gymnasium. This breakage may include window and door panes, thin panels in doors, window and door handles and other small parts very serviceable in classrooms but not in gymnasiums. These parts have to be protected, or replaced in time. It is lamentable that more sturdy fixtures are not installed in gymnasiums when they are built. Sharp corners are often left unprotected, eventually requiring sufficient padding to render them safe. Stairways and cold air vents are often placed directly behind basketball backstops or in other inconvenient places. Usually these cannot be altered, and can only be padded to some degree. Whenever they can be changed to other positions, the accomplishment is worth the trouble.

Auxiliary Rooms

SOME gymnasiums are built with no thought of the necessity of storing equipment. Perhaps some cubby-hole is available, or nothing at all. If no adequate storage room is already provided, the instructor should make every effort to have some available space converted into such a room. It makes for better care of equipment, besides greater orderliness on the gymnasium floor. These storage spaces should be well lighted, clean and kept orderly. A little house cleaning occasionally is worth while. Lockers built along the walls should be available for storing small articles. A room for the storage and issuance of athletic equipment is a necessity. Such a place makes for better care, safekeeping, sanitation and regulation of the issuance of equipment. The provision of suitable lockers, cases, files and issuance counters, all properly locked and closely supervised, is a necessity to coaches and sports managers.

There are certain large pieces of gymnasium equipment which may be left in the gymnasium. These include the piano, mats, benches and apparatus. Such articles should be protected and stored in the most convenient places. A piano screen is a good thing; so are mat hooks on the walls. Apparatus should be drawn up to the girders or securely folded back against the wall when not in use.

An auxiliary room for various phases of physical education is highly desirable, but seldom provided. It is in such a room that a program of restricted activities for pupils with physical defects may be carried on. Table tennis, quoits and quiet table games may be provided. The room may be used also for wrestling, boxing, fencing and similar strenuous sports requiring limited space. Another auxiliary room may be used for training purposes, with necessary equipment for proper service. The instructors' office should be as convenient as possible and equipped adequately for the proper administration of physical education. Many instructors would do well to clean out the junk and old papers, and make their offices more businesslike in all details.

Much might be said regarding the construction and arrangement of the locker rooms. The parts that often have to be remade involve lighting, plumbing, lockers and mirrors. Lighting should be arranged so that it is possible to see the front of all lockers plainly. It is a difficult job to replace corroded or faulty plumbing when it is buried in the walls. Piping in locker rooms should be in the open. Shower heads should be removed and cleaned out occasionally; also, valves should be reconditioned oftener than they are usually. No one seems to think of building mirrors in locker rooms, but they have to be installed in some way at a later time.

Securing Co-operation

HOW may the instructors who must use the gymnasium secure the needed rearrangement and repairs? In the first place, physical education instructors, who know the future needs of the building, should assist in planning the gymnasium

(Continued on page 42)

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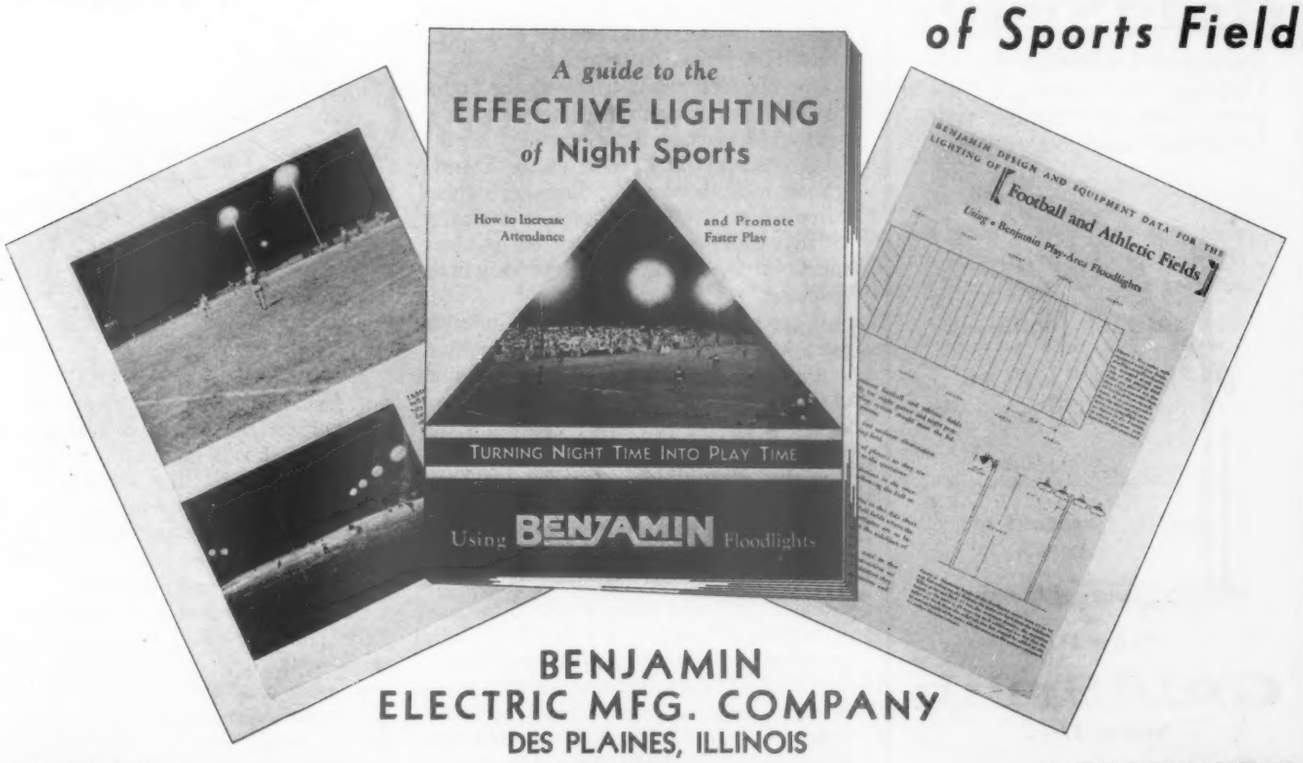
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State Championship Basketball

(Continued from page 22)

men, furnished a well balanced group of substitutes.

A successful tip-off play used by Colorado Springs is shown in Diagram 5. X1 tips the ball back and to his right to X5, who passes quickly to X3, cutting to meet the ball after faking toward center to take the tip-off. X3 passes to X2, who has faked toward center, pivoted and then broken toward the basket. X2 may shoot, or he may pass to X3, breaking down the side, or to X1, breaking down the center. X4 breaks to his left on the tip-off and then takes up a defensive position near the center of the floor.

A play used successfully by Colorado Springs against a man-for-man defense is shown in Diagram 6. X5 passes to X3, who has broken quickly toward the free throw line. X3 passes to X1, breaking out of his corner, and then cuts across the floor to screen X2's guard. X2 cuts around the screen formed by his guard and X3, and takes the ball from X1 under the basket for a set-up shot.

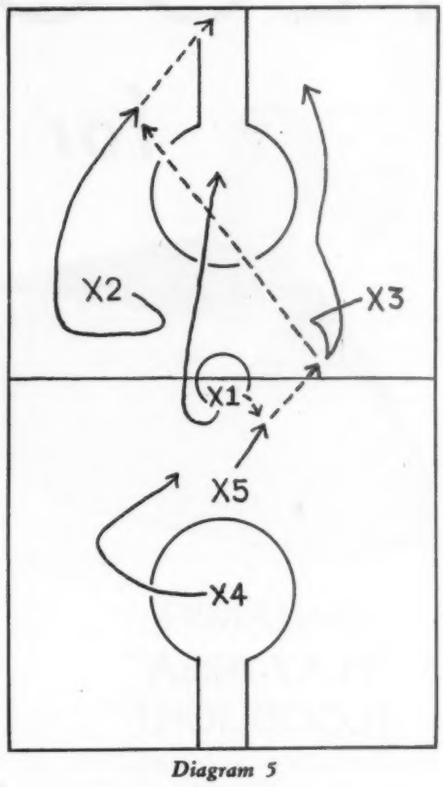

Diagram 5

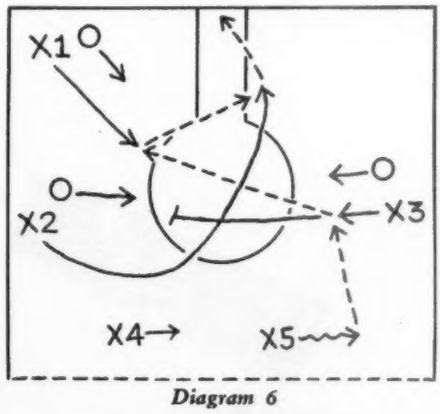

Diagram 6

Florida

By Clyde Crabtree
Miami High School

BASKETBALL in Florida ten years ago was considered a minor sport. In fact, at that time high school players were just beginning to take the game seriously.

One big factor that hastened the popularity of the game is the fact that adequate facilities have been provided for the sport. Basketball in most of the Florida schools today is played indoors on a regulation court. Five years ago, a majority of the teams were playing on outdoor courts, with poor officiating and very little coaching.

It has been difficult to create an interest in basketball, especially in Miami, because of the fact that Miami is the playground of America during the winter. There are so many sports and events to claim the youngsters' interest at this time of the year that we are indeed fortunate to have the facilities and interest we now have.

One big factor in favor of basketball in Florida is conditioning. While coaches in the North are worrying about their boys catching cold and missing school because of inclement weather, the Southern boys are serenely practicing and playing basketball without the cold weather, the overcrowded and poorly ventilated gymnasiums, and the dangers that go with the winters of the northern United States.

Conditioning as a whole, I believe, is easier in the South than in the North. It is easier here to get a boy in good physical condition and keep him that way, as he does not go about training in such a vigorous fashion as does the Northern boy. The boys in the South are brought along slowly, which is more in keeping with their temperament, and they are less likely to be overtrained. Basketball practice, carefully planned, gives just enough exercise to produce good physical condition and improvement in basketball play.

Our past season of basketball was carefully planned. For example, our first practice was held on January 3rd and our first game was played on January 15th. We played eleven games and finished our regular season on February 25th, losing one game, which was played on an outdoor court, winning ten games and scoring 260 points to our opponents' 168.

Our team this year was composed of a group of green youngsters and only one letter man. The first two weeks were de-

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HERE is your opportunity to talk things over with a group of the outstanding coaches in the country. Francis Schmidt had one of the most brilliant Ohio State teams in history last fall. Lynn Waldorf turned out the first Bix Six championship ever won at Kansas State. Dutch Lonborg of Northwestern and Ward "Piggy" Lambert of Purdue have been consistent winners in the Big Ten basketball race.

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● Live on Lake Front

Ideal living quarters are available for coaches and their families. Accommodations for single coaches are provided in fraternity houses on the lake front. Coaches with families will be housed in the modern dormitory of the National College of Education located across the street from Dyche stadium where the football classes will be held.

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voted solely to fundamentals, with drills to add interest. Great pains were taken with passing, shooting, dribbling, pivoting and relative positions on the court. All of the fundamentals, of course, were worked on diligently, and we were still working on them, with a degree of less intensity, however, when we were ready for the district tournament. The fruits of our endeavors were beginning to ripen. Our passing attack had smoothness and deception, the boys had all developed into good ball handlers and were, in spite of their inexperience, not easily excited.

Long shots were rarely used in our style of play, but when used were effective, because our two guards were adept at shooting either two-hand set shots or one-hand jump shots. In the shooting department of the game, every conceivable shot was studied carefully, and full advantage was taken of the possible shots. All five boys were adept at one-hand shots, either right or left. The swing-around one-hand shot was particularly effective. It seemed that all teams had trouble covering it.

We were fortunate in having two guards, Eldridge and Rentz, who were above the average in dribbling and who were excellent ball handlers and passers. Schermer, the center, was naturally left-handed and was especially good at getting the ball off either backboard. He played the pivot position and was a hard man to cover, because of his alertness and perseverance. The forwards, Dawson and Iverson, were excellent fakers and all they needed was half a step to be away. Each instinctively knew when to break toward the ball and when to fade. Pivots received a lot of attention and all players were capable of making a front or backward pivot.

Two points were stressed to the players in our style of play: (1) Form a mental picture of the position of every player on the court before turning your back. (2) Set the pace for the opposing players; do not let them be the pace setters.

We found the second point particularly effective because our break usually occurred on the third or fourth pass in. I might add here that we used the 3-2 setup, with forwards on the sides of the floor and almost even with the free throw line. The center had a choice of roving in the free throw area or under the basket. The guards worked the ball down the court together and waited until a player inside was free for a pass. The slow-break was used to good advantage because the pass was not made until the prospective receiver was in position to receive the ball. Each offensive man moved about until one was open, and then a play was begun.

A fast-break was sometimes used to baffle the defense. The guards relayed the ball as quickly as they could to the center, who had gone to the center area. He in turn relayed the ball to a forward, who was down the court. If, however, the center had the ball and a forward was covered, the former either held the ball or dribbled to give his team mates time to get in place for a slow-break.

The man-for-man defense was used effectively, with the forwards, Iverson and Dawson, trying to worry the opposing guards as they advanced the ball. Each forward stayed between a guard and the basket for which the latter was headed, playing about a step or two steps away, but always in position to go with the guard if the latter broke quickly. These forwards were clever enough to avoid any screen plays that might be attempted.

In Diagram 7 is one of our plays that was particularly successful against a close man-for-man defense. X4 has maneuvered

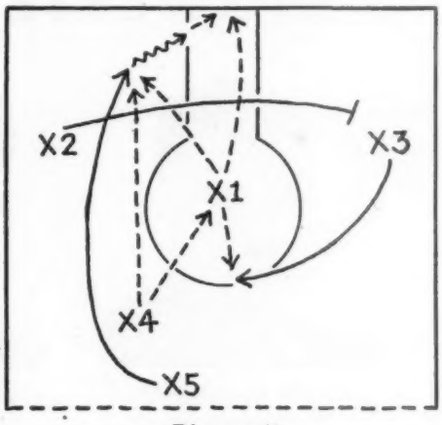

Diagram 7

the ball into offensive territory, with X5, the other guard, behind and a little to the inside. X2, at a signal, leaves his position and goes between X1 and the basket to screen the man covering X3 on the other side of the court. As X2 gets beyond X1, X5 breaks to the opening left by X2, hoping to leave his man on the break or else have him screened by X4. X4 has a choice of passing to X5 as he breaks toward the basket, or of passing to X1, who will either relay the ball to X5, dribble in for a shot, shoot from the pivot position or pass to X3, who is coming around by the free throw line.

Cardinal rules set down for observance of our players are as follows:

1. Don't dribble when a pass can be made.
2. Don't shoot when a pass can be made that will give another player a better shot.
3. Don't leave your feet when guarding.
4. Don't overguard to the point where you are easily faked out of position.
5. Cover a man if possible by always keeping the ball and the possible receiver in view.
6. Always meet the ball when on defense.
7. Shoot only when everyone else is covered and you have a good shot.
8. Remember that there are four other players besides yourself on your team.
9. Work to help out your team mates at all times.

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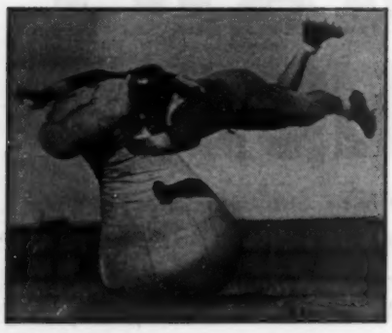

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10. Make sure your team mate is open before you pass to him.
11. Be sure to pick up your opposing player before he is in position to score.
12. Make ten out of fifteen free throws each day of practice before you leave the gymnasium.

Iowa

By J. A. Grimsley
Mason City High School

WE had a very hard schedule for our regular season, playing most of the large high schools from one end of the state to the other, as well as two of the strongest Minnesota teams, including a Minneapolis high school and Austin High School, this year's state champion of Minnesota. I believe our hard schedule helped us to win the Iowa championship in that we were used to tough competition, the kind that we met in the state tournament.

Our city has a population of 25,000, and our high school has an enrollment of 1,450 students. The Mason City team has played in the state tournament for the last four years in succession. Captain Ray Barr, a guard, has the distinction of playing in four state tournaments. This record has been equalled by but one other boy in the State of Iowa.

We have two preliminary tournaments before the state tournament. Our Class A high schools and Class B high schools are kept separate until the state tournament, in which there are eight Class A and eight Class B teams. These teams lose their classification in the state tournament.

Our team drew four of the strongest teams in the state tournament, three Class A teams and one Class B: Independence, Davenport, Grinnell and Murray. We won the final game from Grinnell, 28 to 17.

We use what has been called the delayed offense, with a great deal of emphasis placed on set plays. We have not used a fast-break to any extent this year. I do not believe a team using a fast-break very much can win a state championship. I believe the boys would be too tired by the final game to make a real championship contest of it. Our team, I believe, was playing better and was stronger in the final game than in the other games.

We use a strictly assigned man-for-man defense. We do very little shifting of men. Of course, on screens we shift men, but during the season's practice I do not emphasize checking men at all, because I believe this is bad for high school boys. I like to have each player assigned to a certain opponent and make him responsible for covering this man throughout the game. I was fortunate in having a wonderful defensive guard and a wonderful defensive forward, and I believe they must have set some kind of tournament record, because our guard covered two of the best Class A forwards in the state, Simpson of Grinnell and Simmons of Davenport, holding them to no points. Our left forward, Snell, covered two of the best scoring guards in the state, Wingert of Independence and Howell of Grinnell, and he held them to no points.

During the season, in working on defense, we put a great deal of stress on footwork. We take a set-up of three men against three and have the offensive players try to work the ball in for shots by cut-offs and screens. This sort of maneuver is worked on almost every night of the basketball season. As a result, we have five boys who are not easily fooled by offensive tricks.

I believe the mental attitude of high school boys in the state tournament is of utmost importance. Our boys went to the state tournament this year with a good record behind them, with a great deal of confidence that they could win the championship, and yet they were not overconfident, I am sure.

J. A. Grimsley, Iowa

During the tournament, I do not permit the boys to see any games other than their own. I always have them sleep for at least two hours in the afternoon preceding a night game. I do not believe in being with my boys too much during a tournament. I leave them alone completely at the hotel and am with them only during the games.

Some of my conclusions about state tournament play are as follows: I do not favor the plan of having the Class B schools thrown in with Class A schools in a final tournament. This makes the drawings very unfair for some of the stronger teams. I am very much opposed to the zone type of defense. I believe this is a detriment to the game of basketball. I believe that a high school boy trained for four years with a zone type of defense will never make a very good college or university player. In our state tourna-

ment this year, however, we had a great majority of the teams going back to the man-for-man type of defense. I believe a team, to win a high school championship, must have a very well worked out plan of offense and a good, strong man-for-man defense.

A guard crisscross play which we used when defensive forwards were pressing our two offensive guards hard is shown in Diagram 8. X4 dribbles to the right and makes a pivot, passing back to X5. The latter dribbles, passes in to the left forward, X2, and breaks to the outside and around X2 toward the goal. X2 passes in to the center, X1, and cuts out in front of him. The center passes the ball to X5, coming in, and then takes a step sidewards and backwards in order to make a screen against the defensive center.

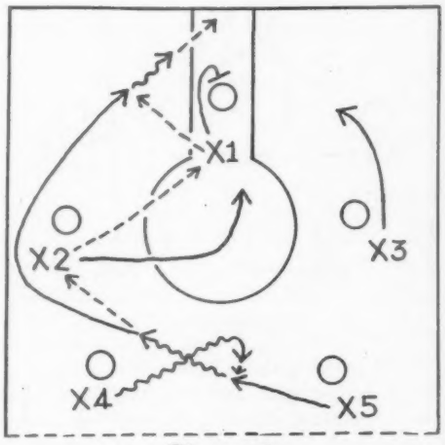

Diagram 8

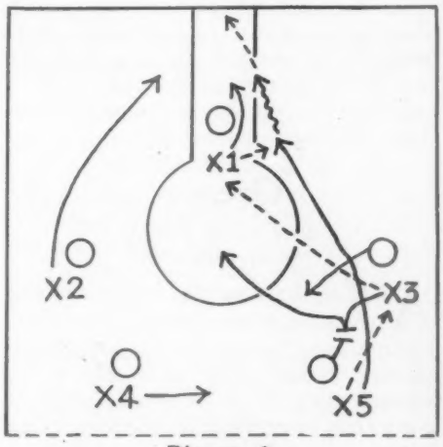

Diagram 9

Our pet play, started by either guard, is shown in Diagram 9. We had a big, fast left-handed guard to come in on the left side of the basket. X5 passes the ball to forward X3. Then X3 passes, usually a bounce pass, to X1, the center, and makes a pivot, screening the guard of X5 as the latter cuts outside of X3 for the goal. The center may pass to X3 or X5. X3 screens quickly and then cuts out in front of the pivot man to take, if necessary, a pass back from the guard, X5, who may have been picked up by an opposing

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player, or from the center, X1. On this one play, four field goals were scored by our two guards and three by our right forward in the final tournament game. On all of these set plays, our center shoots from the pivot position if he fails to make a pass off to a guard or forward.

The play illustrated in Diagram 10 is a high pass by a guard in to the pivot man. We used this a great deal because of our 6 foot 4 inch center who could almost always get the pass. Guard X5 passes with a hook pass high to the center, X1. Then X5 breaks for the basket on the outside. X3 starts with the pass, cutting across in front

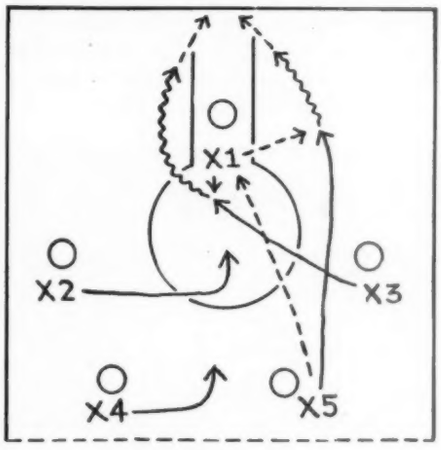

Diagram 10

of the pivot man to take a close pass and go in for a shot. The ball may be passed to X5, coming in, or to X3, or to X2, who comes out quickly in front of the pivot man. These plays are all worked from either the right or left side of the floor. If the play does not work and we still retain possession of the ball, the ball is thrown out to the back guard, X4, who holds it until our players get back into position. Then X4 starts another play.

Oregon

By John A. Warren
Astoria High School

AFTER three months of emphasizing offensive plays, defensive positions and running attacks to Astoria High School players so that they were able to go through forty-three successful games to win a state tournament for the fourth time in seven years, I naturally view the whole season and the tournament, in retrospect, with a critical eye. I analyze the past games with thoughts of the way a certain man performed, what situations the team did not meet well and what improvements might have been made.

During the Oregon tournament, there were several features that particularly attracted my attention. Among them were the physical type of player predominating this year, the different systems of offense and defense used, the officiating and the general management of the meet.

A great deal of credit is due to the Ore-

gon State Athletic Association, R. S. Keene, Athletic Director of Willamette University, and the University officials for the manner in which the tournament was conducted. Games started promptly, the spectators were well managed and a spirit of sportsmanship prevailed.

It was indeed gratifying to me to see the Astoria team go through the grueling test of tournament play with a spirit on the final night that exceeded my highest hopes. The period of pre-tournament conditioning that seemed like an endless routine while we were in preparation for the event proved its value in the stamina shown by our men.

Astoria this year used the fast-breaking offense. We were very fortunate in having a pair of strong defensive guards. Our large center was capable of handling the backboard play at the ends of the court. This allowed the forwards to remain well out in the court and to take many chances at intercepting balls passed across the floor, since they were confident that the guards could handle any situation that would arise in the back court. One of these guards was an excellent dribbler, capable of bringing the ball down the floor with lightning speed. Preceding this player down the floor were one or both forwards, creating a 3-2 formation which frequently meant a score. Whenever a basket was attempted, the center and a tall forward followed up under the backboard, the other forward taking the free throw line. Both guards remained on defense unless one attempted a shot, which he was trained to follow. If this system did not function, the set plays shown in Diagrams 11 and 12 were used.

In the first of these set plays, X5 passes to X3, who is breaking out from his corner, as shown in Diagram 11. X3 may fake to give the ball to X5, who is trying to break away from his guard by using X3 as a screen, or X3 may actually give the ball to X5, who dribbles in for a shot. X2 breaks diagonally across the floor and may receive a pass from X3. X2 may either take a high two-handed flip shot or stop and take a pivot shot. At the same time, X1 breaks out from the basket to either right or left so that he may come

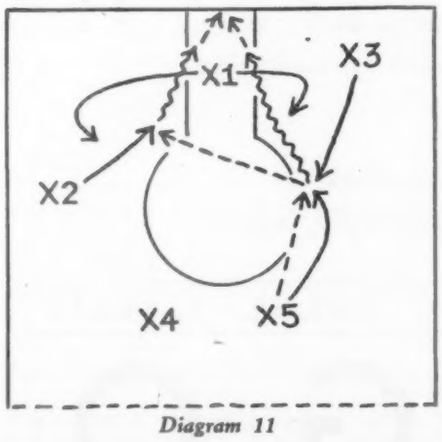

Diagram 11

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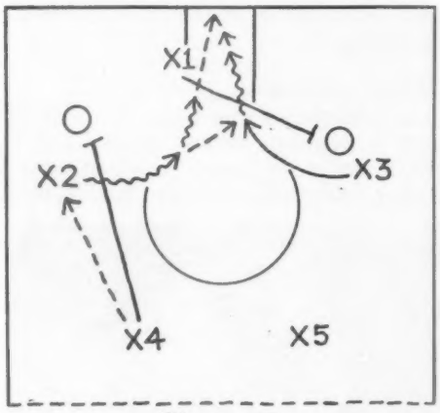


Diagram 12

back to receive a pass from X2, if the latter is unable to shoot for the basket.

In the play illustrated in Diagram 12, X4 passes to X2 and follows his pass, making a front screen on X2's guard. X2 comes around X4, dribbling in for a shot. X1 screens X3's guard, allowing X3 to break in so that X2 will have a player to pass to in case a guard changes men and takes him.

The Oregon State Basketball Tournament seems to be commanding a more widespread interest than in previous years. It is fostering a highly developed type of play and is affording an opportunity for schools to meet on a basis of competition and keen rivalry characterized by a spirit of fine sportsmanship!

Athletic Injuries in Baseball

(Continued from page 15)

the momentum carries the body forward, something must give, and the bone breaks, producing what is known as a Pott's fracture. (See Illustration 6.)

Symptoms and Signs

There is intense pain with swelling and deformity. The edges of the bones are displaced and the injury may be accompanied by a dislocation.

Treatment

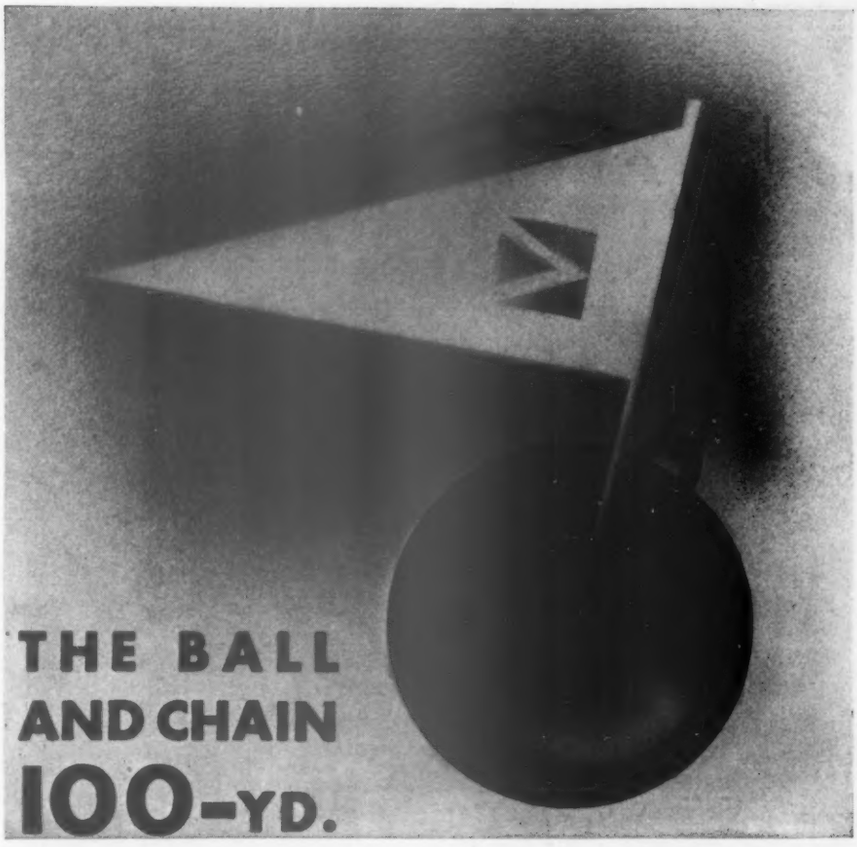
Do not allow the injured person to place any weight on the foot, as it may produce a compound fracture. The ankle should be put in a splint and the player placed under the care of a physician.

Prognosis

It requires about eight weeks for this injury to heal, and the injured player may return to activities at the end of that period. Usually there is no limitation of motion or interference with his participation in activities as a result of this injury.

Rupture of the Extensor Tendon of the Finger

THE terms "baseball finger," "mallet finger" and "wicket keeper's finger" are used to describe a forced flexure of



Do you remember the enthusiasm of his time for the record-setter . . . how every one prophesied: "Here is the fastest speed that man can attain, we have reached the end of new records?" And do you remember the excitement when yesterday a new star set up a new record, displayed a speed 'til then thought impossible?

Yet the chances are that new stars actually *couldn't* run any faster than the old ones. The old stars ran with ball-and-chain handicaps, and faster times have been made possible by the removal of some of these handicaps—by the discovery of a new form, acquisition of a new style, by improvement in the mechanical condition of the tracks, in better rolled and faster surfaces.

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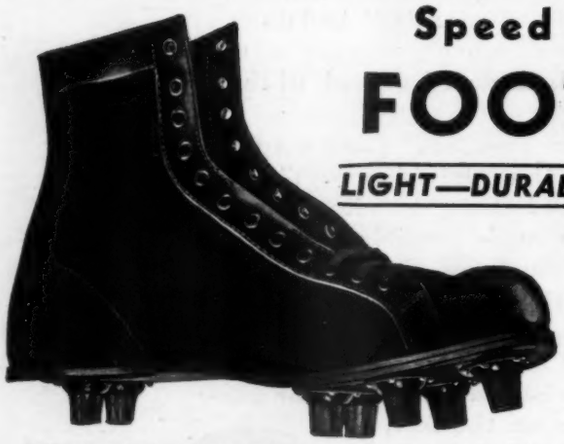

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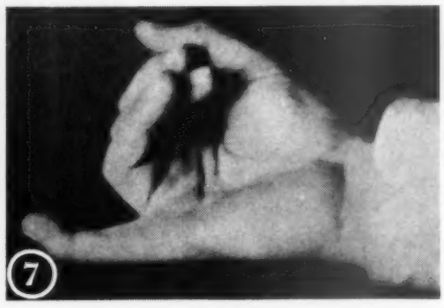
the distal phalanx of the finger. (See Illustration 7.)

History and Signs

Individuals suffering from this condition give a history of having received a blow on the end of the finger. Catching a baseball or basketball on the end of the finger



is the most common cause among athletes. As a result, swelling and pain occur in the soft tissue, and the swelling often hides the dropping finger.

Anatomy and Pathology

All the joints in the body except the inter-phalangeal are supported by a ligament on all four sides of the bones. These joints differ from the joints in other parts in that they have no ligaments on the extensor surfaces. In these joints we find the tendons of the extensor communis digitorum muscle acting as a ligament. When an individual has a so-called baseball finger it means that the tendon has been torn close to its insertion on the distal phalanx. As a result, the flexor tendon, having no opposition, pulls the distal phalanx downward, which accounts for the drop or mallet shape of the finger.

Treatment

Operative treatment has not proved very successful in old cases. The best results have been obtained by conservative treatment. If the finger is placed on a splint as soon as the injury occurs, one may expect to prevent deformity. Even if the injury is not treated for some weeks after the injury, the splinting treatment should be tried, for it will restore some function to the extensor tendon. This conservative treatment is recommended by Jones[8] in preference to the operative procedure.

Injury to Radius

THE condition known as "baseball pitcher's elbow," as described by Kirby, results from a foreign body in the elbow joint.[9] This foreign body is a piece of cartilage, or bone, which has been torn off the head of the radius.

History

In every case reported in the literature, the injury has occurred in baseball play-

[8] Jones, R., *Orthopedic Surgery*, Brinker, W. M., and Welch, H., *International Clinic*, 2:94:28.

[9] Kirby, F. J., M.D., *Journal of the American Medical Association* (August, 1930).

ers. The following statements have been reported in the newspaper. "Jack Hayes, Chicago White Sox infielder, will be out of the game for about a month as a result of an operation on his throwing arm. A small piece of bone was removed from his right elbow yesterday." [10] "Whitelow Wyatt, who resorted to surgery last fall to correct an elbow ailment, showed that the operation took away none of his speed." [11]

After throwing a ball, the player usually feels a sharp pain in the elbow joint which prevents him from continuing in the game. The condition is often mistaken for a dislocated elbow.

Cause and Pathology

"During the wind-up in the act of pitching, the arm and forearm should be held in extension and the throw of the ball should be from the shoulder. Frequently a pitcher during the wind-up will hold his forearm in slight flexion; then, as he prepares to throw the ball, by suddenly and forcibly contracting his triceps muscles and rotating his forearm and hand downward and inward to give all possible speed to the ball as it leaves his hand, he extends the forearm fully and rapidly, and the head of the radius is brought backward suddenly and with great force against the condyle of the humerus. The result is that a small piece of cartilage and bone from the head of the radius is chipped off —a chisel fracture of the head of the radius. This small broken off piece of bone and cartilage remains about the joint and, by constant irritation, it is likely to increase somewhat in size." [9]

Symptoms and Signs

At the time the injury occurs, the individual feels a sharp pain in the elbow along the outer side just as the ball leaves the hand. The arm becomes sore and swollen, and, on palpating the elbow while making gentle flexion and extension, pronation and supination, the examiner feels a small movable body between the head of the radius and the external condyle of the humerus. When the player tries to perform these movements, the pain is accentuated. In some cases, the foreign body may be seen on the X-ray plate.

Treatment

In the acute stage, the application of cold compresses or ice caps to the elbow joint, followed by rest, is advisable. After the diagnosis has been made, operative procedures are in order to remove the foreign body.

Prognosis

The prognosis is good if the foreign body is removed. The individual should eventually have an arm and forearm as good as before the injury.

[10] *Herald-Tribune*, New York, May 15, 1934.
[11] *Herald-Tribune*, New York, May 12, 1935.

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Aims of the Wisconsin High School Coaches Association

(Continued from page 27)

way of actual change is doubtful, but it is evident, without question, that the coaches as a professional group are very anxious to become active in the shaping of the policies which make or break their work. They are beginning to feel, and rightly so, that men who have spent their lives in an effort to prepare themselves soundly for specific athletic work should have some influence in the shaping of the policies which concern themselves far more than any other group of educational administrators.

State Secretary Paul F. Neverman of the Wisconsin Interscholastic Athletic Association has already suggested that the State Rules Interpretation Committee has added to it for next year some representation from the coaches' group. This move on the part of the W. I. A. A. will be highly valued by the coaches, and will produce a new level of co-operation. The Coaches Association is very anxious to co-operate with the W. I. A. A. in every conceivable manner and is sternly consigned to the task of raising the level of athletic endeavor over the state.

Activities

PERHAPS the outstanding thing the Coaches Association has attempted thus far has been the state wide program of basketball clinics held this past winter. These gatherings were planned at a rather late date, but the results have nevertheless been far reaching. Reports coming in from all sections indicate that this type of service has filled a vital need and opened a vista of possibility for the future.

Another work the Coaches Association is carrying on is a co-operative plan with the State Journal of Physical Education. The Association has undertaken to provide periodically for that publication articles on athletic topics by leading high school coaches. This service will be continued with each issue.

Plans for the Future

MANY tentative ideas are now being weighed for future development, some of them no doubt to be discarded, and many others to become a part of the work of the group. Among them are the following:

1. Summer coaching clinic by high school coaches as a substitute for college schools, where men may meet and work out problems together, unhampered so much by the time element.
2. Football clinics in the stadia, especially where night lighting is being used.
3. Publicity on making games more colorful and attractive to the public, so that the high school game may easily compete with college and professional attractions.
4. An official publication which would be a medium for the Coaches Association.
5. Bulletin service to all members which would gather suggestions of value on new ideas for:
   a. Attracting more crowds.
   b. Equipment care and rebuilding.
   c. Intramural organization.
   d. Student help with athletic supervision.
   e. Organizing freshman programs interscholastically.
   f. Sound and lighting devices.
6. Arranging more district meetings, so that all parts and corners of the state may be well served.
7. Greater publicity and selling devices to taxpayers and school administrators, which will cement physical education.
8. Group meetings for coaches who handle only minor sports, such as cross-country, tennis, boxing, golf, gymnastics, tumbling, intramurals and swimming.

It is the feeling of the leaders of the coaching profession in Wisconsin that they have a great work ahead of them. The surface has been scratched and dented hard in the first year, but much depends on future attitudes. Members of the Coaches Association are anxious that it will not degenerate into a mere social agency, but that sober minded thinking and progress will prevail, bringing to the state a new atmosphere of athletic leadership which will inspire our youth.

Remaking the Gymnasium

(Continued from page 28)

before it is constructed. If these men are allowed to discuss the essential features with the architect, much remaking will be obviated. It is hoped that physical education teachers will present their cases to the proper authorities at the right time. The building of an adequate gymnasium requires a thorough knowledge of a large program of physical education so that the needs may be provided for. It should be pointed out to the architect that certain breakable parts have no place in a gymnasium. Every other part should be protected when installed.

The development of an all-around program of physical education will do much to encourage those planning a building to include adequate facilities in the original plans. Or, later, it will do much to secure the co-operation of school ad-

ministrators to provide necessary readjustments. A teacher who can show the educational values of his program will foster sympathy with that program to secure assistance in all of its phases.

It is important to secure the utmost co-operation of superintendents or college administrators, and, at times even more important, to secure the co-operation of building custodians. By seeking their interest in what is being done, by welcoming their attendance in the gymnasium, much help from them may be secured. Friendliness with the custodians and favors rendered them will guarantee assistance from them when repairs and readjustments are necessary.

Assistance from members of the manual arts department or from boys who are clever with tools will help considerably in keeping the gymnasium in repair or installing various articles. These helpers will render assistance as quickly as the necessity arises, and, in so doing, may prevent further breakage. A continued state of repair is conducive to care on the part of all those who use the gymnasium and locker rooms.

Problems Confronting the High School Track Coach

(Continued from page 16)

or less in the experimental stage, as yet, I believe these changes have come to stay, and no doubt in due time we shall see similar changes in various other events. These are desirable changes because the high school sophomore boy, which means the boy in his first year in our larger senior high schools, comes to us considerably younger and less matured than did boys before the advent of the junior high schools. Such changes as these provide an opportunity that would not otherwise be available to the boys of smaller stature.

We may also expect changes in rules governing the high jump and the broad jump, and the possible addition of several sophomore events, not with the idea of discrimination but primarily to arouse more interest and at the same time to assure safety in these events. Because a boy is only fourteen years old does not mean that he may not be a potential miler, but certainly he should not begin running the mile at this age. The coach who is interested in the boy's health must find something else for him to do. The boy should not compete in the more strenuous events until his stature and endurance have increased. Why, then, should we not provide strictly sophomore competition for the younger boys and give them a chance to develop interest as well as ability?

Another change that seems just a short way off, which perhaps may not have occurred to many of the high school coaches,

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would be to limit competition to boys who are properly seasoned. Many times I have had boys come out for track and want to compete in our distance runs before having gone through sufficient preseason training to justify this strenuous competition without danger of impairing their health. We seldom see a track meet, college meets included, without the collapse of some individual who has failed to pay the price. Consequently our track athletics are often severely criticized by the average person who is not well informed. With our various rules regarding competition here in Kansas, requiring physical examinations of athletes before competition, there seems little chance of personal injury, provided proper training methods are followed.

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With this growing tendency for better scholarship, younger athletes, closer supervision on the part of school officials and coaches; with the assistance of all of our available resources to increase interest in track; and with such pillars as Glenn Cunningham for boys to idolize, there seems to be little reason why we should not get more of our boys interested in one of the healthiest of all our spring sports.

Effect of the Intensity of the Stimulus on Starting Time

(Continued from page 13)

THE FLASH PISTOL. This is the GM-CE Model 2 pistol, which fires 6 mm. crimped shells. It is so constructed that the flash goes through the top of the barrel rather than out the end. It is comparable to the .22-caliber pistol usually employed.

THE .32-CALIBER PISTOL. This is an ordinary hammer pistol employed in this part of the experiment.

No attempt was made to estimate the intensity except on a comparative basis. Using decibels [2] as a standard for measuring intensity, the fact was established that each pistol had a different intensity, beginning with one of low intensity and ending with one of rather high intensity.

---

[2] A difference in decibels $= 10 \log_{10} \frac{I_1}{I_2}$ where I_2 is the intensity of the reference sound and I_1 is the intensity of the compared sound.

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"Scotch pistol" ..... 0 decibels
Cap pistol ..... 8.42 decibels
Flash pistol .....14.43 decibels
.32-Caliber pistol .....23.25 decibels

The Data

DATA were collected from 25 trained sprinters. Each subject executed 20 starts with each pistol. The general procedure was to have each sprinter come to the laboratory 4 periods in the course of one month. In each period he was given 20 starts, 5 with each pistol, making an aggregate of 80 starts. A summary of the data collected from the group is shown in Table 1. (Page 13.)

The data show that the mean starting time with the "Scotch pistol" is .2938 ± .0146 seconds; for the cap pistol the mean starting time is .2991 ± .0159 seconds; for the flash pistol the time is .2859 ± .0131 seconds; and for the .32-caliber pistol it is .3027 ± .0146 seconds.

Table 2 shows a mathematical comparison of the starting times for the pistols.

TABLE 2

Pistol	Obtained difference	P. E. difference	O. D. P. E. difference	Chances of a true difference greater than zero
1-2	.0053	.0201	.264	57 in 100
1-3	.0079	.0193	.409	61 in 100
1-4	.0089	.0203	.438	62 in 100
2-3	.0132	.0194	.679	68 in 100
2-4	.0036	.0204	.176	55 in 100
3-4	.0168	.0196	.858	72 in 100

No. 1 in the first column is the "Scotch pistol"; No. 2, the cap pistol; No. 3, the flash pistol; and No. 4, the 32-caliber pistol. O.D. = Observed Difference; P.E. Difference = Probable Error of the Difference.

Raw data tables are omitted. However, an examination of them shows that, on the basis of individual mean starting times, 5 subjects got off the front block fastest with the 32-caliber pistol; 6 were fastest with the flash pistol; 8 were fastest with the cap pistol; and 6 were fastest with the "Scotch pistol." In all cases except two, the mean differences were of no significance. In these exceptions, the chances were 100 per cent that the "Scotch pistol" yielded the fastest starting time and the .32-caliber pistol the slowest starting time. There is no explanation at hand for the behavior of these two sprinters.

These experiments were conducted on an indoor track.

Conclusions

DATA collected from twenty-five trained sprinters on an indoor running track, relative to the effect of the intensity of the stimulus (caliber of the pistol) on starting time, show that the intensity of the pistol sound is not a determining factor within the range of the size of pistols usually employed in starting sprint races.

This opportunity is taken to thank Dr. W. W. Tuttle and Coach George T. Bresnahan, University of Iowa, for directing the research.

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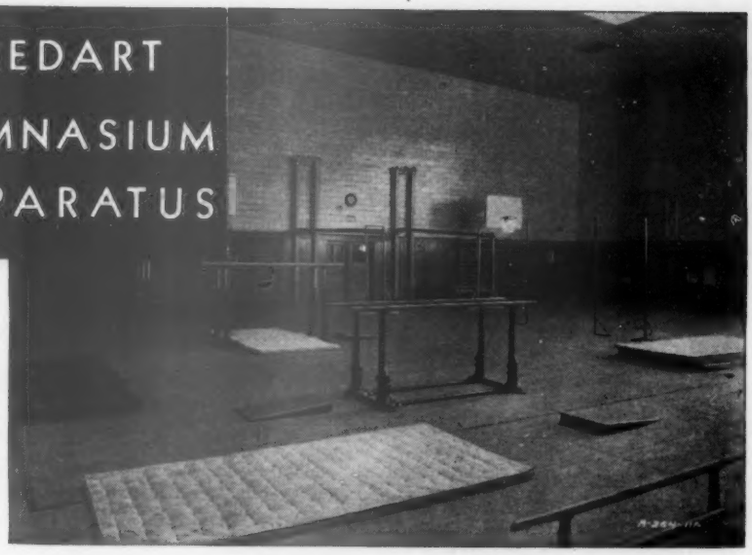

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Edited by William H. Cowell, Secretary-Treasurer of the American Football Coaches Association, Durham, New Hampshire

First President of the A. F. C. A.

CHARLES D. DALY, Colonel, U. S. A. (Retired), first President of the American Football Coaches Association, was born in Boston, Massachusetts, on October 31, 1880, of Timothy and Catherine (Hegarty) Daly. He attended Boston Latin School and received his A. B. Degree

Charles D. Daly, in 1918, thirteen years after his graduation from the U. S. Military Academy.

from Harvard University with the Class of 1901, following which he attended the United States Military Academy, graduating in 1905.

"Dan" Daly, as he was then known, had broad experience as a football competitor. He played for Boston Latin School in 1895 and 1896, on the Harvard freshman team in 1897, on the Harvard varsity team during 1898, 1899 and 1900, captained the Harvard team in 1900 and represented the U. S. Military Academy on the gridiron in 1901 and 1902.

But Colonel Daly's football career did not stop there. The year after his graduation from the Military Academy he began a four year coaching period at that institution, then went to Harvard as Football Coach in 1907 and remained there as mentor in 1908. In 1912, he returned to Harvard. Following his activity of coaching Crimson teams in 1912, he returned to West Point for another four year coaching term (1913, 1914, 1915 and 1916) and was later reappointed Coach at the West Point institution during 1919, 1920, 1921 and 1922. In 1925 he went back to Harvard for another year of duty.

During his college career, Colonel Daly was Third Marshal of the Senior Class. Since his college days he has twice been a member of the War Department General Staff.

Charlie Daly is considered by many people who saw him play as the greatest football player of all time. He was not the greatest punter, the greatest open field runner, nor the greatest performer in any single department of the game, but, because of his all-around ability and his value to the team, many people considered him the greatest player that ever lived.

As already stated, he played on the team at West Point in the fall of 1901

Daly during his coaching days at the U. S. Military Academy.

and part of the fall of 1902. The remainder of the time he was a cadet, he coached the team. Although not head coach in name, most people at West Point gave him credit for dominating the coaching situation the whole time he was a cadet, whether he played on the team or not. Only a man of Daly's force of character, tact and pleasing personality could have accomplished what he did while at West Point as an undergraduate.

During the ten years he coached or played on the team before the World War, not a single game was lost by the Army to the Navy. After the War, teams coached by Daly lost three games to the Navy, but this was the result largely of the fact that in 1919 the cadet corps was practically made up of plebes.

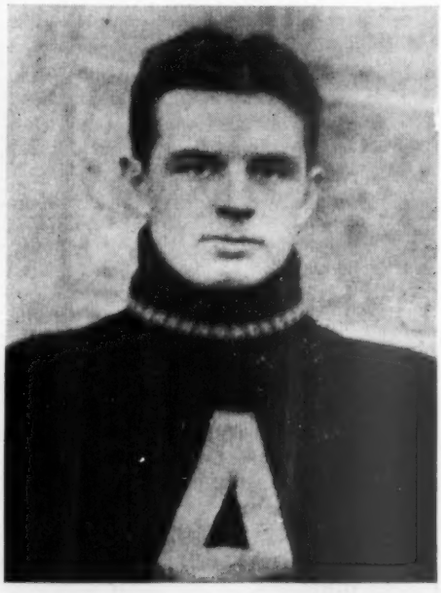
While Daly was a cadet, he was not only a leader in football, but was also the leader of his class in track and field events. The Class of 1905 did not lose a single interclass track and field meet. Daly was the champion broad jumper at that time, always came out second to John Hammond in the sprints and always placed in the high jump.

One of Daly's greatest contributions to the Military Academy was his work in connection with intramural athletics. Through his co-operation with Colonel Koehler, intramural athletics were started in 1922 and have been carried on ever since.

Some of Daly's outstanding performances on the football field are as follows: Run for a touchdown from the first kick-off in the Navy game in the fall of 1901. In the same fall, a run for a touchdown against Pennsylvania and at least one other team from the kick-off.

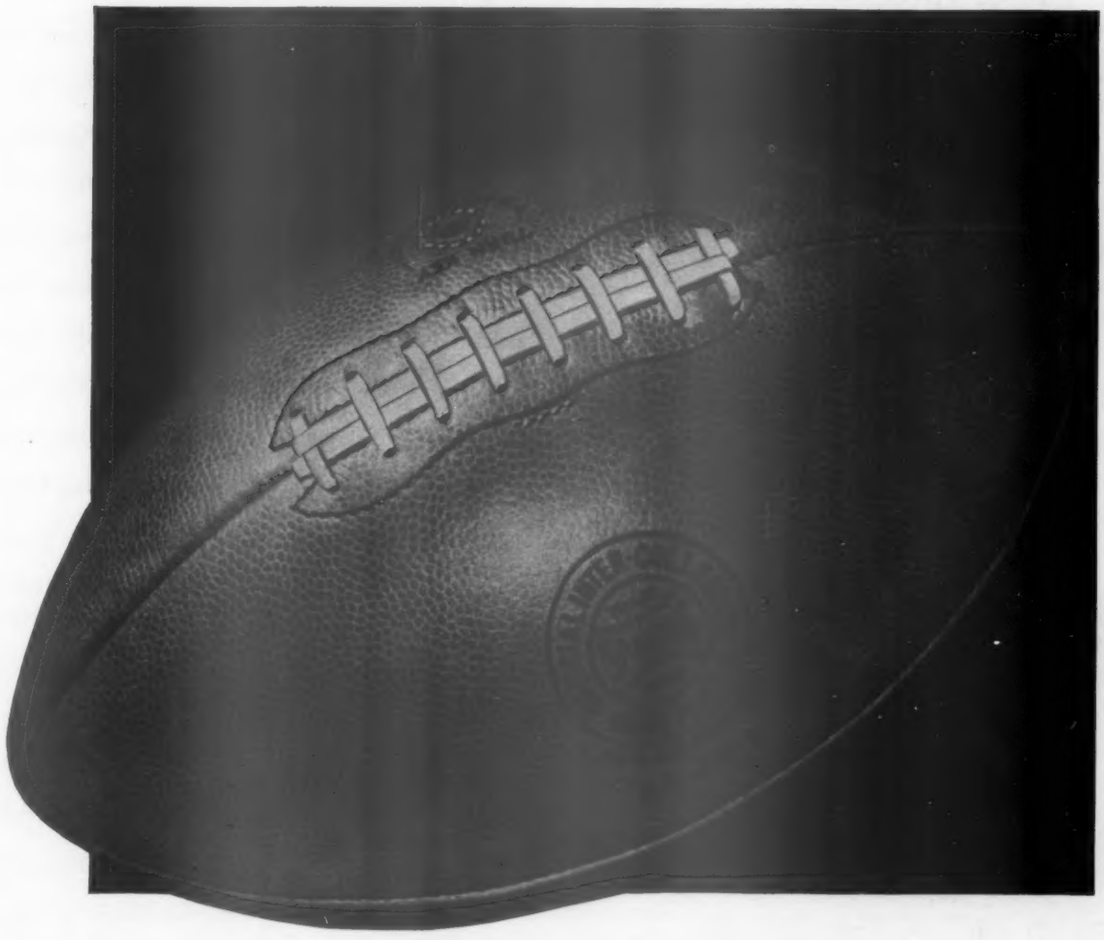
Daly's ability to receive a punt and then punt the ball back before he could be tackled is a feat that few football players have ever been able to perform.

Colonel Daly married Beatrice Jordan



Daly as an army quarterback in 1901.

The class of the Big Time



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...Because its balanced construction was determined by fool-proof experiments *in actual play* as well as in the laboratory.

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* * * *

JOCK SUTHERLAND
UNIVERSITY OF PITTSBURGH
Football - Warner System

* * * *

DICK HARLOW
HARVARD UNIVERSITY
Football - Deception and Scouting

* * * *

ANDY KERR
COLGATE UNIVERSITY
Football - Lateral Pass

* * * *

HUNK ANDERSON
NORTH CAROLINA STATE
Football - Line Play

* * * *

JOE McKENNEY
BOSTON COLLEGE
Football - Defense

* * * *

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in 1912, and they now have three sons and two daughters. The two elder sons—Charles (twenty-one) and John H. (nineteen)—are at present attending the United States Military Academy in the first and second classes, respectively. His daughter, Beatrice (eighteen) is now Mrs. Robert Totten. The two youngest children are Ellen (sixteen) and Robert (fourteen).

Charles D. Daly was instrumental in the formation of the American Football Coaches Association. He called the first meeting by writing friends to meet with him at the Astor Hotel, New York City, on December 27, 1921, to discuss the feasibility of organizing an association which would bring together the college football coaches of the country for the common good and improvement of the great college game. At this meeting, Colonel Daly was made Chairman. He outlined briefly the necessity of such an organization, and stated that his idea of forming such an association was twofold:

First, "There existed no vehicle through which the coaching fraternity as a whole could give expression to its views on the game."

Second: "To bring all coaches together with a view to mutual good fellowship and all its attendant advantages."

Following a general discussion, it was decided to invite other coaches interested to a second meeting to be held in the fall of 1922. This meeting was held at the Astor Hotel, New York City, December 7, 1922, and the Association became a reality. At this meeting Colonel Daly was elected President, John W. Heisman (University of Pennsylvania) was elected Vice President, Dr. J. W. Wilce (Ohio State University) was chosen Secretary-Treasurer, and R. T. Fisher (Harvard University) and F. H. Yost (University of Michigan) were selected as Trustees.

Colonel Daly now resides at 1001 Olmsted Avenue, Pacific Grove, California.

NOTE: *This is the first of a series of sketches on Presidents of the A. F. C. A.*

Changes in Positions

THE following changes in football coaching positions have been reported recently:

Capt. Lawrence "Biff" Jones has recently been assigned the Head Coaching berth at the University of Oklahoma at Norman.

Paul Stagg, son of A. A. Stagg, has transferred his coaching duties from Moravian College of Bethlehem, Pennsylvania, to Susquehanna University of Selinsgrove, Pennsylvania.

Necrology

RALPH HUTCHINSON, an old Princeton athlete and former Washington & Jefferson Coach, recently passed away at Moscow, Idaho.

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FOOTBALL SHOES

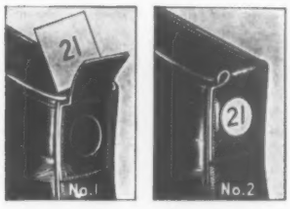

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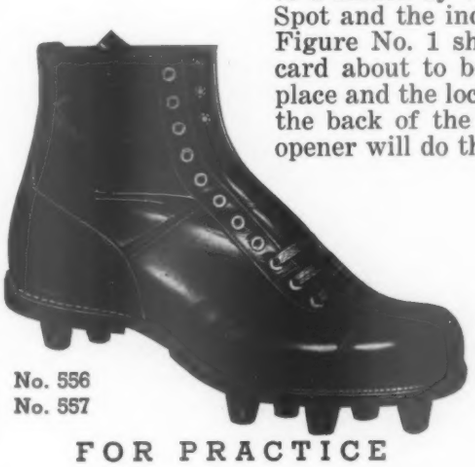
Figure No. 1 shows the lock tab pulled out and a numbered card about to be inserted. Figure No. 2 shows the card in place and the lock tab partially tucked in between the card and the back of the shoe. Any small blunt tool such as a letter opener will do the trick.



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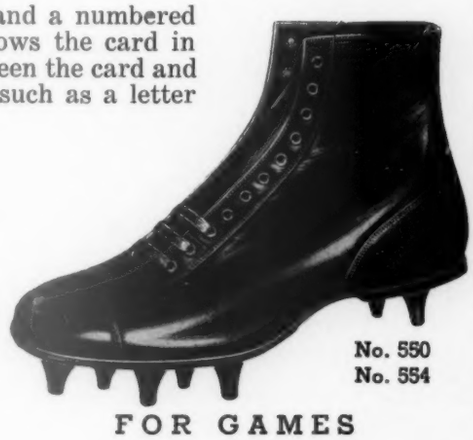

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Blueback kangaroo shoe. Straight soles. Hard toes. Moulded sole leather counters. Comes equipped with regulation detachable cleats.

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Same as No. 556 except yellowback kangaroo uppers. Designed for general practice and game wear.

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